INTRODUCING

MANITOBA

PREHISTORY

Papers in Manitoba Archaeology
Popular Series No. 4

Manitoba Department of Cultural Affairs and Historical Resources

1983

IMPORTANT

12 Every person who finds an artifact or a paleontological object or skeletal remains or any object which he suspects might be an artifact or a paleontological object or skeletal remains shall forthwith report the find to the minister in writing.

S.M., 1966-67, c. 22, s. 12.

13(1) No person shall excavate for historic or archaeological research or purposes or search for or excavate for artifacts, paleontological objects or skeletal remains without a valid subsisting permit to do so issued under the regulations.

Manitoba Historic Sites and Objects Act, S.M.,
1966 - 67, c. 22, s. 1.

Manitoba Regulation 30/80

Being a Regulation Under The Historic Sites and Objects Act Respecting Permits for Conducting Archaeological or Paleontological Field Research in the Province of Manitoba

(Filed February 29, 1980)

1. Any person wishing to conduct or carry out archaeological or paleontological field research in Manitoba shall first obtain a permit for the purpose from the Historic Resources Branch, Department of Cultural Affairs and Historical Resources.

2. An application for a permit to conduct or carry out archaeological or paleontological field research shall be made on Form 1 attached hereto.

3. There shall be a separate permit for each site or area at which archaeological or paleontological field research is to be carried out.

4. Each permit is subject to the special terms and conditions attached thereto or prescribed thereon.

INTRODUCING MANITOBA PREHISTORY

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ERRATA

p. 4, 8th line from top should read: "different tribes came into contact with each other ..."

p. 128, first line on page should read: "then sewn with bone or copper awls to produce sleeping robes ..."

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PROLOGUE

Archaeology is a multi-faceted discipline. It involves a wide range of field and laboratory techniques, and incorporates the technology and information of many other sciences and professions in the achievement of its objectives. The purpose of all this activity is to generate knowledge about man's past.

In 1982, the Manitoba Department of Cultural Affairs and Historical Resources published a booklet entitled "Introducing Manitoba Archaeology". The purpose of that booklet was to describe for the general reader the many procedural, legal, and philosophical aspects of archaeology in the province. The publication you are now reading is the companion volume of the earlier one, in that it outlines the "product" of archaeological research in Manitoba. The following pages for the most part contain two kinds of things: (1) descriptions (photographs, drawings) of archaeological findings in Manitoba, and (2) interpretations of these and other archaeological data via text, photographs, paintings, and pen-and-ink drawings.

Endeavours of this nature are not new; from time to time one encounters them in magazines, pamphlets, and brochures. Usually, however, these materials deal with a particular topic or a certain geographical area. The present book addresses itself to the prehistory of the entire province. Something very much like it was published in 1970 by the Manitoba Archaeological Society under the title "Ten Thousand Years: Archaeology in Manitoba"; not only is that volume out of print, but, as is to be expected, some of its contents are now out of date as well. When the present book was assembled, a conscious effort was made to provide up-to-date information and, as well, to eliminate technical concepts and jargon wherever possible so that the material would be readily comprehensible to the educated layman.

If the general idea behind this book is not new, neither are its contents. Most of what appears here has already been published elsewhere; the important difference lies with the fact that it is all appearing together, for the first time, under one cover, and it is more fully illustrated than it was in its original form. In addition, much of the following material initially appeared in scholarly reports, journals, and graduate theses. This has been edited and adapted to the purpose for which the book is intended, that is, easy comprehension by the non-specialist.

By way of a final comment, I would suggest that, before too very long, portions of this book will be out-of-date. This is the fate of any endeavour that attempts to project the "state of the art" of a dynamic field of study. The obvious solution is to up-date the publication as new information comes to light and/or old interpretations are rendered obsolete by new findings. Hopefully, the present book will be but the first of a long series of revised and improved renditions of a most fascinating story.

LEO F. PETTIPAS
Editor

TERMS, CONCEPTS AND GOALS OF MANITOBA PREHISTORY

Two closely related terms which are in fact often confused or used interchangeably are "archaeology" and "prehistory". "Archaeology", according to the Merriam-Webster Dictionary, is "the study of past human life as revealed by relics left by ancient peoples." "Prehistory", on the other hand, is that period of time prior to the existence of written records. In other words, archaeology is a science; prehistory is the time period which is studied through the application of that science. Hence, an archaeologist who studies prehistoric archaeology is a "prehistoric archaeologist" or, simply, a "prehistorian". We have already described archaeology as it applies to our province in the publication "Introducing Manitoba Archaeology". The present book attempts to convey the current "story line" of man's prehistoric past in this province.

Before we embark on our journey into the past, it is appropriate that we familiarize ourselves with a few terms that will be cropping up throughout the book. As is the case with every science, archaeology has its own specialized vocabulary, and anyone who wishes to speak with authority on the topic must become familiar with these terms. The task of defining them is simplified by the fact that they can be placed in a logical order that makes them easy to understand.

The first and most fundamental term in the archaeologist's dictionary is "attribute", that is, a property or characteristic of any archaeological object. For example, a stone arrow point possesses several attributes: shape, length, width, thickness, weight, and the stone material (flint, chert, etc.) from which it was manufactured. An arrow point, which is, then, a cluster of attributes, is an "artifact" -- any object manufactured by man. Some archaeologists restrict the term "artifact" to an actual tool, implement, or construction, and exclude the waste products that were produced and discarded while the object was being made, such as the stone chips or "flakes" that were struck off and cast aside when the arrowpoint was being made. Other archaeologists would consider these "flakes" artifacts as well, for even though they were not tools in the strictest sence, they were nonetheless produced at the hand of man. Some items are more complicated than a single object or tool, inasmuch as they are made up of several related parts. A ring of stones that was used to hold down the edges of a tent, or a fireplace, comprising burnt bone, ash, plant seeds, perhaps a discarded, worn out stone tool that was thrown into the fire, and a confining ring of rocks, are both examples of what archaeologists call "features", rather than simply "artifacts".

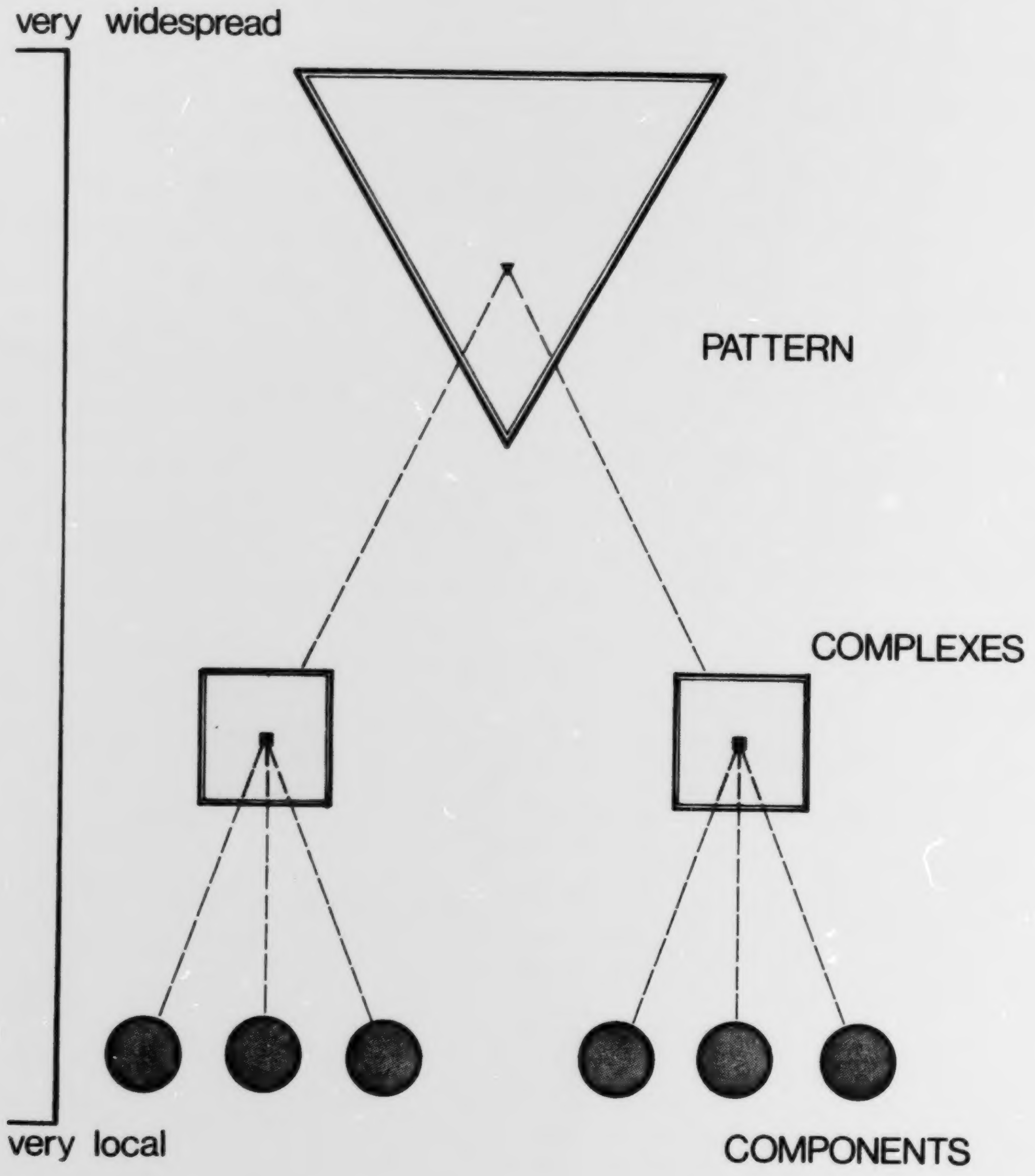
The artifacts of a particular class of material form an "industry". For example, all of the artifacts made of stone -- arrowpoints, knives, scrapers, hammerstones, etc. -- make up the "stone industry". The remains of pottery vessels of various kinds comprise the "ceramic industry", and the bone tools constitute the "bone industry". The products of all of the various industries at a site, plus associated features, make up the "assemblage", or "component". The component, together with its location in geographic space and the soil upon or within which it is situated, is called a "site". By comparing the assemblages from several sites, and noting in particular the diagnostic artifacts and features, the archaeologist can formulate "complexes". A complex is the sum total of all the sites, and their contents, that were created by the people of a certain tribe. Complexes can be traced through time and over space. The period of time during which a particular complex was in existence is referred to as a "phase". Where a complex is very widespread, the term "horizon" is used to emphasize that fact. We will discuss examples of archaeological complexes in Manitoba in the pages that follow.

More often than not, several contemporaneous complexes can be grouped together because they have a number of basic artifact categories in common. They possess these "common denominators" by virtue of their having evolved from a common ancestor or perhaps because in former times they were in contact with each other, exchanged traits and ideas and hence ended up with similar kinds of artifacts. Such groupings of complexes are called "patterns". If, on the other hand, similar complexes follow one another in time, rather than being contemporaneous as is the case in a "pattern", and it can be shown that all are related in a direct line of development, we refer to them collectively as a "tradition". This term is also used to refer to individual artifact classes or types that persisted for long periods of time.

In other words:

a) several attributes form an artifact
b) several artifacts form an industry
c) several industries (and accompanying "features") form a complex
d) several complexes form a pattern or a tradition.

Having reviewed the many details and complexities of the archaeologist's vocabulary, we can bring this section to a close and, at the same time, lay the final piece of "groundwork" for the next section by outlining the three main objectives of prehistoric archaeology.


very widespread
PATTERN
COMPLEXES
very local
COMPONENTS

A diagrammatic representation of the relationships between components, complexes, and patterns. Simply put, several components, each of which may occupy a very small tract of land and represent a particular season of occupation, together form a complex. In anthropological terms, a complex corresponds with what may be loosely termed a "tribe". Several complexes, which differ from one another in details but which nonetheless possess several general characteristics in common, form a pattern.

The first major objective is to determine "chronologies" for the various parts of the province. A chronology is a sequence of cultural traditions, patterns, and complexes that form the subdivisions of human prehistory in any given area. In Europe, archaeologists subdivide the "Stone Age" into the "Paleolithic", "Mesolithic", and "Neolithic" stages of cultural development. In Manitoba, several chronologies are in use, depending on the part of the Province that we are dealing with. Most of the province's prehistory has been subdivided into the "Early", "Middle", and "Late" periods. Some archaeologists divide the sequence into the "Paleo-Indian", "Meso-Indian", and "Neo-Indian", or the "Paleo-Indian", "Archaic", and "Woodland" periods.

The second objective of prehistoric archaeology is to reconstruct the lifeways of the people responsible for the traditions and complexes that make up the chronology. Through a proper study of the complexes, it may be possible to learn many details about how the people conducted their lives year in and year out. In other words, we are trying to find out as much as we can about the customs, or "cultures", of the peoples represented by the various archaeological complexes that form the chronology. You will note that most of the captions in this book are named "cultures", not "complexes". That is because we wish to describe ways of life, instead of simply the archaeological materials upon which the reconstructions are based.

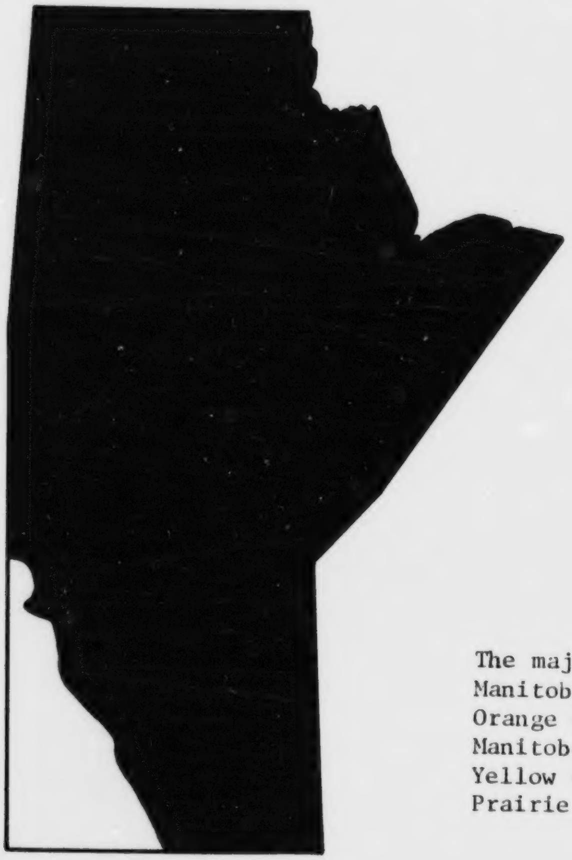
The third objective of prehistoric archaeology is the detection of change in the archaeological record across time and geographical space, and the explanation(s) as to why such changes might have occurred.

In the pages that follow, we hope to show how all three of these objectives have been pursued by Manitoba prehistorians.

THE ENVIRONMENTAL BASELINE

In the following pages, considerable emphasis will be placed on the fact that the natural environment of Manitoba went through some tremendous changes during the past 12,000 years of human prehistory. In order to fully appreciate the magnitude of these changes, it is necessary to establish a "yardstick" of some sort with which they can be compared. In the following paragraphs, we will review the modern environment in terms of two major variables: physiography and vegetation.

The Province of Manitoba is composed of four major physiographic regions. The northern and eastern sections are dominated by the Canadian or Pre-Cambrian Shield, which is bordered on the northeast by the Hudson Bay Lowland. Southern Manitoba comprises, for the most part, (1) the western uplands, or Second Prairie Level, which includes the Turtle, Pembina, Riding, Duck, and Porcupine Mountains, and (2) the Manitoba Lowland, or First Prairie Level, forming the central axis of the province between the western uplands and the



The major physiographic regions of Manitoba: Green -- Hudson Bay Lowland; Orange -- Pre-Cambrian Shield; Brown -- Manitoba Lowland (First Prairie Level); Yellow -- Western Uplands (Second Prairie Level).

Shield. The "Great Lakes" of Manitoba -- Winnipeg, Winnipegosis, Manitoba and Dauphin -- are located within the Lowlands, which are separated from the Second Prairie Level by a well-defined, northwesterly-trending slope known as the "Manitoba Escarpment".

Two-thirds of Manitoba's land surface is between 500 and 1,000 feet above sea level. The flattest part, found in the Manitoba Lowland, has an average elevation of 850 feet, while the highest point is Baldy Mountain in the Duck Mountains, which rises to an elevation of 2,727 feet.

Superimposed upon this physiographic "foundation" is a series of vegetation zones or belts trending roughly northwest to southeast across the province. These are the Grasslands, Aspen Parklands, Boreal Forest, Northern Transition Zone, and Tundra. This alignment is not accidental, for it reflects major climatic variations.

THE GRASSLANDS

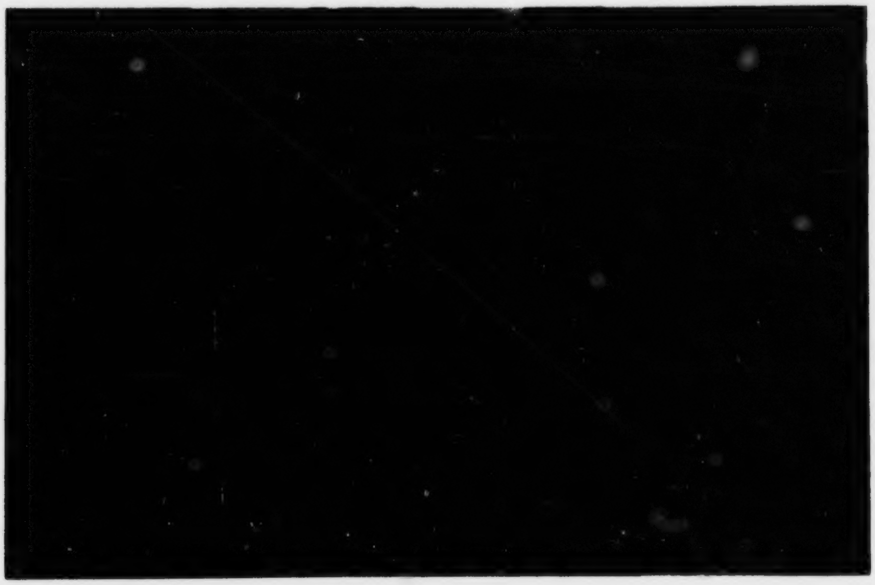
Botanists divide the grassland into "tall-grass" or true prairie, and "mixed-grass". These grass differences correspond to differences in rainfall and soil moisture. The prairie of the Red River lowlands was essentially a continuation of the true prairie in western Minnesota and eastern North Dakota. Because of poor drainage on the flat Lake Agassiz plain, much of the spring runoff persisted well into the growing season, making a lush growth of the dominant tall grasses, such as big bluestem, together with a variety of colorful herbs. South of the Assiniboine River and west of Pelican Lake on the rolling moraines and flat plains, tall grass species were joined by more drought-resistant western grasses in a mixed prairie association. Farther north on the Riding and Duck mountains, present prairie openings are dominated by fescue and wheat-grass.

Native prairie is resilient and able to withstand such stresses as low and fluctuating rainfall, high winds, and periodic fires. The structure and life cycle of the dominant grasses are important in understanding this resilience. Prairie grasses have evolved characteristics which suit their environment - long flexible stems, narrow leaves, a fibrous root system, and mechanisms for rapid growth and vegetative production. They form dense stands which render the prairie sod almost impenetrable to invading species. Native grasses grow rapidly when moisture is available and lie dormant later in the hot dry summer. Most are perennial so that if fires burn off the above-ground parts, they can be replaced by new growth the next season.

An example of the mixed-grass prairie as it existed in the North Antler River district of extreme southwestern Manitoba in the 1870s.

THE ASPEN PARKLANDS

Fringing the continuous prairie is an irregular parklike landscape of aspen groves or "bluffs" of various sizes, surrounded by grassland. The Parkland, now highly modified by agriculture, is part of a major transition zone extending from northwestern Minnesota north and west across the prairie



A recent photograph of a portion of the Aspen Parkland, showing to good advantage the relationship between the stretches of grassland and bluffs of aspen.

provinces to east-central Alberta. It is here that the battle between grassland and forest has been waged for thousands of years. Both fire and drought are weapons of the prairie, while the stubborn aspen depends for its spread on wet periods and its ability to sprout quickly after fire. At the time of settlement and the demise of the bison, the prairies, aided by fire, were expanding at the expense of the trees. One of the most spectacular of these fires was described by Henry Hind (1860): "... all the prairies were burned last fall, a vast conflagration extending for 1,000 miles in length and several hundred in breadth." With the coming of the settlers, fires were greatly reduced, thus favoring the aspen.

Clumps of established trees around marshes and lakes or along streams may invade a marginal shrub zone that serves as its vanguard. Sometimes trees invade the prairie through long horizontal roots that give rise to sucker shoots. Occasionally, the fluffy windborne aspen seeds gain a foothold in areas left bare by animal trails or burrows.

A mature aspen bluff of 40 to 60 years age may also contain white birch, white spruce, and in wetter areas, balsam poplar. Isolated bluffs merge to form continuous forest on the eastern and northern fringe of the Parkland.

Two plant communities, identifiable and distinctive in their own right, are found in the Grasslands and Aspen Parklands. These are the deciduous forests and the marshlands.

The deciduous forests are those which skirt the major river valleys. Forest trees include Manitoba maple, elm, cottonwood, green and black ash, and rarely, peach-leaved willow (a tree willow growing up to 30 feet high). Basswood is found along the Red and Assiniboine rivers. On higher and drier sites above all but the greatest floods, bur oak and aspen are common. Bur oak is the only native oak in Manitoba; the largest stands are along the Red River and in the vicinity of Winnipeg and Portage la Prairie. Elsewhere, bur oak occurs in fairly dense but scrubby stands in protected ravines and along valley slopes in the south and west, often together with aspen and elm.

Marshes are rich productive habitats dominated by grasses, sedges, and reeds, and may be flooded permanently or seasonally. They range in size from the extensive Delta Marsh at the south end of Lake Manitoba and Netley Marsh in the Red River Delta to the small prairie "potholes" that dot the western uplands around Minnedosa. Depending upon the local water table and slope of the land, it is possible to recognize several distinct zones of vegetation within each marsh. In open water a few feet deep, pond-weeds and other submerged aquatics form a dense growth covering the bottom. On the surface, a diminutive but important plant is the duckweed - a favorite food of waterfowl. At the water's edge, cattails, bulrushes, and the common reed form one or more conspicuous zones. On higher ground, which may dry by the end of summer, their place is taken by sedges and whitetop grass. Where soils are saline, shoreline species include glasswort and sea blight. Unlike bog habitats, marshes furnish an abundant supply of nutrients for plant growth and the common reed may grow as much as two inches a day in early summer, reaching a height of 12 feet by mid-season.

Ecological studies over the years have shown that marshes are dynamic entities which can alter dramatically in a few seasons. The Delta Marsh changed its appearance following extensive flooding in the mid-1950s. Most of the reed communities were killed by this high water, paving the way for pioneer annuals such as fleabane, pigweeds, and dock to colonize the bare, drying tracts. By the early 1960s, however, the former balance of whitetop grass, mature reed stands, and other marsh plants had started to be re-established. Periodic flooding, then, interupts the course of marsh succession and insures the persistence of aquatic habitats for waterfowl and other wildlife.

THE BOREAL FOREST

Canada's Boreal Forest (also called taiga) is part of a broad circumpolar zone between the Grasslands or deciduous forests and the Tundra. The dominant conifers - spruce, pine, tamarack, and fir - are all well-adapted to the rigorous boreal environment. In the southern part, poplars and birches mingle with the conifers and become locally important, usually after some disturbance. Subdivisions of the forest are based upon the nature of the tree cover. From south to north these are: mixed coniferous-deciduous forest, northern coniferous forest, boreal forest-tundra transition, and forest-tundra.

The southern part of the northern forest is aptly termed mixed woods for it contains a variety of both coniferous and deciduous trees. Special note should be made of the extreme southeastern corner of the province where there are trees more characteristic of the botanically richer Great Lakes-St. Lawrence forest to the south and east. Here can be found scattered stands of red pine, white pine, and largetooth aspen. There are more typical areas of Manitoba mixed woods composed of jack pine, white spruce, aspen, and birch in the west, over much of the Interlake-Westlake plain, and from Riding Mountain northward to the Red Deer River. These cover a variety of landforms and soils including the sandy areas near Carberry, and in the southeast, the limestone-rich glacial sediment of the Interlake, and mixed limestone-shale deposits of the Riding, Duck and Porcupine mountains. Mixed woods also occur farther north in the Saskatchewan River Delta and along the upper Nelson River on clayey soils, and between the Nelson and Churchill rivers on clay or granite-derived soils of the Canadian Shield.

North of the mixed woods the vegetation takes on a predominantly evergreen aspect, with fewer signs of broadleaved trees which are less adapted to the rigors of northern climates. In this part of the forest, aspen and birch make up much less of upland communities, and the important trees are black and white spruce, balsam fir, and jack pine.

Topography and soils here have been strongly influenced by the Canadian Shield and the effect of Pleistocene glaciers. Repeated glacial activity in the Shield scoured innumerable rock basins and linear valleys, and left deposits in other valleys. Eroded material was also deposited in ridges and as flat-lying sand and gravel deposits. Over much of the area, sands and clays have been left by the waters of glacial Lake Agassiz. The net result is a variety of landforms ranging from bare rock and dry sand hills to lakes and peat-filled depressions. Major rivers, such as the Hayes, Nelson, and Churchill, add diversity as they alternate between placid lakes and roaring currents on their way to the sea.

An aerial view of typical Boreal Forest in Manitoba.

Reflecting this habitat variety, exposed bedrock and lowland areas support black spruce and tamarack, while jack pine is common on the drier parts of ridges and slopes. White spruce occurs predominantly on upland plains and, together with fir, aspen, and balsam poplar, is found along rivers and streams.

THE NORTHERN TRANSITION ZONE

North of the closed coniferous forest and south of the tundra lie two broad zones in which the forest becomes increasingly open as the treeline is reached. Climatic conditions become more rigorous and perennially frozen ground (permafrost) becomes progressively more widespread. The first of these zones, the Boreal Forest-Tundra transition, forms a parklike landscape on uplands with scattered black spruce surrounded by low shrubs and a mat of lichens. Prominent among the lichens is reindeer moss, an important winter

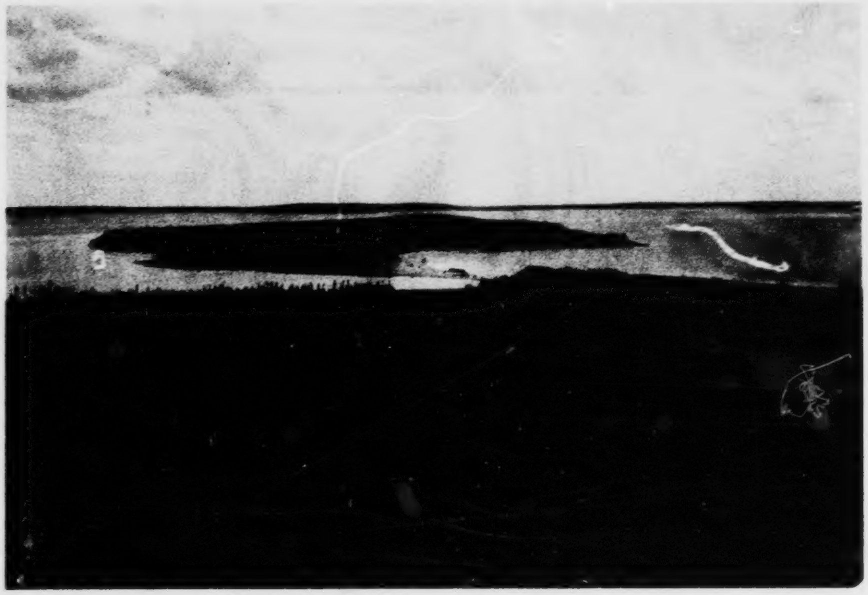
A ground view of the Northern Transition Zone, showing the spruce trees interspersed with lichen.

food of caribou. On sand ridges and river floodplains, white spruce forest predominates. Extensive bogs and muskegs cover low-lying areas.

Beyond this zone, in the forest-tundra, the upland forest becomes more sparse and the trees are more stunted and deformed until they ultimately disappear. Protected ravines shelter clumps of black spruce and dwarf birch, and there are stands of tamarack and white spruce on river flats, where willow and dwarf birch shrubs also occur.

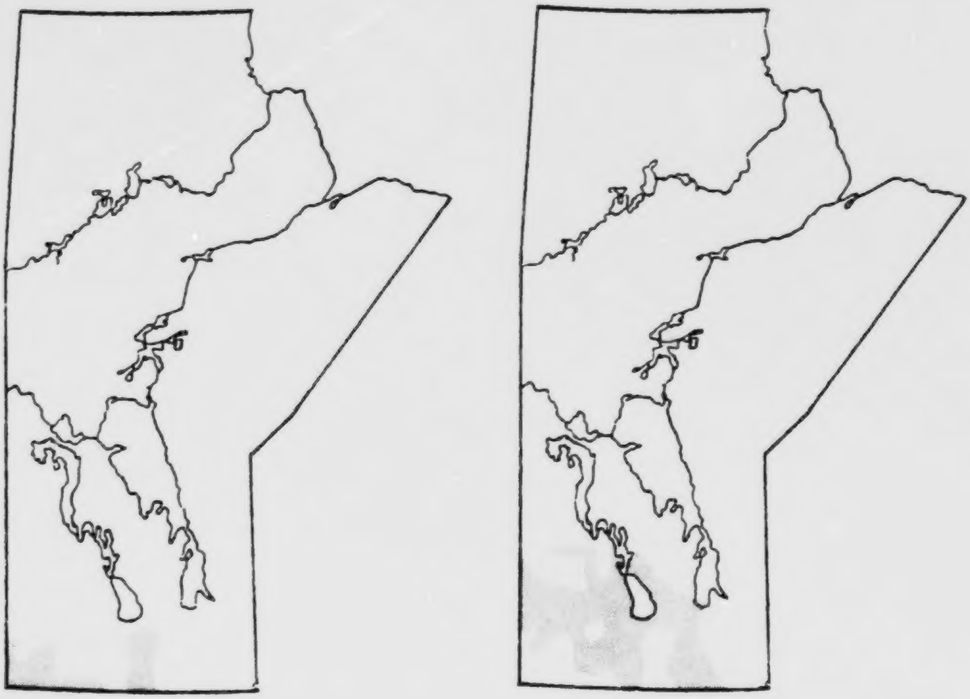
THE TUNDRA

In the extreme northeastern corner of the province, tundra communities become the prevailing cover of upland areas. Stunted trees of white spruce, black spruce, and tamarack occur only in the most favoured locations. One such black spruce near Churchill was found to be 300 years old, but had grown to a height of only 22 feet. Where drainage is poor, sedges, dwarf willow, and a

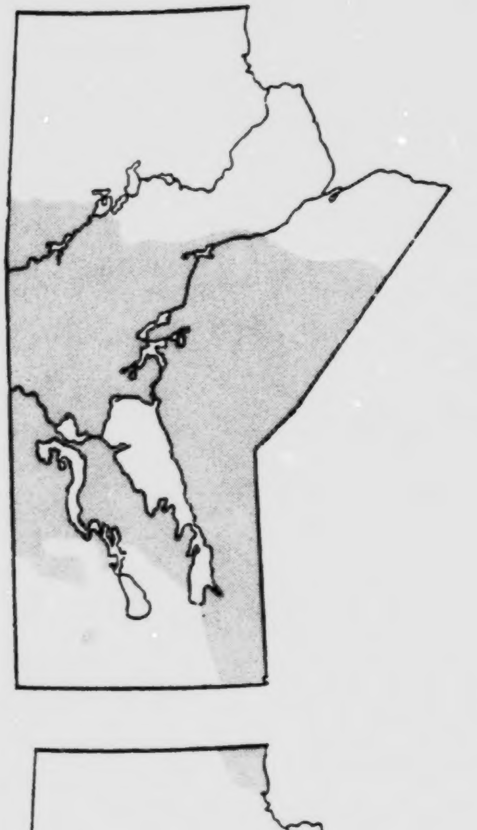


An example of true tundra in extreme northern Manitoba.

variety of arctic herbs make up the plant cover. Although seemingly barren and forbidding, the Tundra is a colorful delight during the flowering season when a host of delicate blooms cover the landscape.



Distribution of major vegetation zones in Manitoba: left -- the Grassland; right -- the Aspen Parkland.

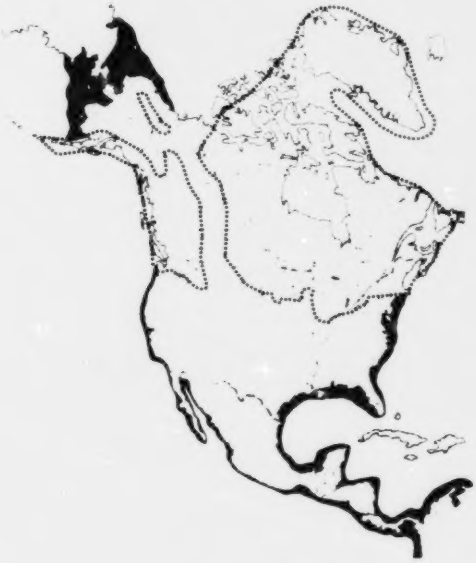


Distribution of major vegetation zones in Manitoba: upper left -- the Boreal Forest; upper right -- the Northern Transition Zone; left -- the Tundra.

EARLY PREHISTORIC PERIOD

NORTH AMERICAN NATIVES: THE BEGINNING

It is generally agreed among archaeologists that man did not evolve from non-human forebears in the Western Hemisphere as he did in the Old World. That is, the first people to appear in North and South America were in all probability *Homo sapiens sapiens*, modern man, who migrated into the New World from Siberia via the Bering Strait. Estimates place one major migration as occurring near the end of the last glaciation, between 9000 and 14,000 years ago, but the date of man's first appearance in North America is still very much a matter of debate. The recent discovery of 27,000-year-old bone tools in the Yukon implies a very early entry indeed. In support of this early arrival of modern man is the recording of archaeological deposits in Peruvian caves that are 19,000 years old. Since the only likely migration route into the Andean Region was southward through the North American continent, the northern half of the hemisphere must have been occupied even earlier than the dates from the Peruvian caves. Indeed, some archaeologists believe that man was present in the New World as far back as 35,000 years ago.



North America as it may have looked at the height of the last glaciation ca. 18,000 years ago. The areas enclosed in dots are glaciated. Note that a corridor existed between the two major ice sheets; this may have served as an access route to the interior of the continent from the Old World. If so, Manitoba would not have witnessed the immigrants, since it was buried beneath ice. The dark areas along the coasts represent tracts of land that became dry due to a fall in the sea level.

ENVIRONMENT AND MAN IN EARLY MANITOBA

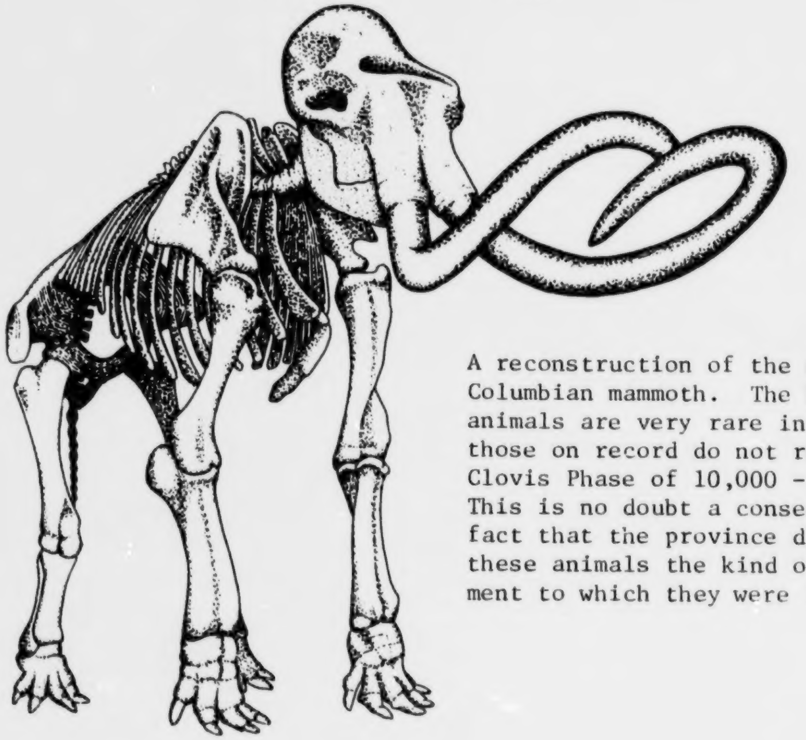
It has been pointed out by the geologists that Manitoba was overridden by huge glaciers several times during the last million years, the most recent glaciation taking place between 23,000 and 9000 years ago. When one considers the destructive potential of the ice sheets, one can readily appreciate how difficult it will be to discover archaeological deposits that might have been laid down prior to the last advance. Hence, the known record of man's habitation of Manitoba goes back no further than 12,000 years, by which time the ice was in the process of retreat. Actually, man has been an inhabitant of this province throughout the past twelve thousand years, but only the first 5,000 are of direct concern to us here. The peoples of interest are variously referred to as "Paleo ('Old')-Indians", "Early Big Game Hunters", or "Early Man". Their technology was basically "stone age" in character, and their economy was based on hunting, supplemented no doubt by the gathering of edible wild plants.

THE CLOVIS CULTURE (10,000 - 9000 B.C.)

The earliest known artifacts so far recognized in Manitoba are projectile points referred to as "Clovis". Actually, the "Clovis Culture" is best represented at sites in the Plains and the Southwest (Arizona and New Mexico) of the United States, where archaeologists have found the distinctive Clovis projectile points directly associated with the bones of now-extinct Ice Age mammals, particularly mammoths. These points are said to be "fluted" because they exhibit grooves or channels running part way up both faces of the specimens. The points were apparently fixed to the ends of spears that were thrust into the bodies of the mammoths when they came to waterholes and streams to drink. The "tool kit" of the Clovis Hunters also included stone chopping tools and knives for butchering and skinning the slaughtered animals, and scrapers for preparing hides and fashioning spear handles. The Clovis Culture has been dated at between 10,000 and 9000 B.C. in the United States.

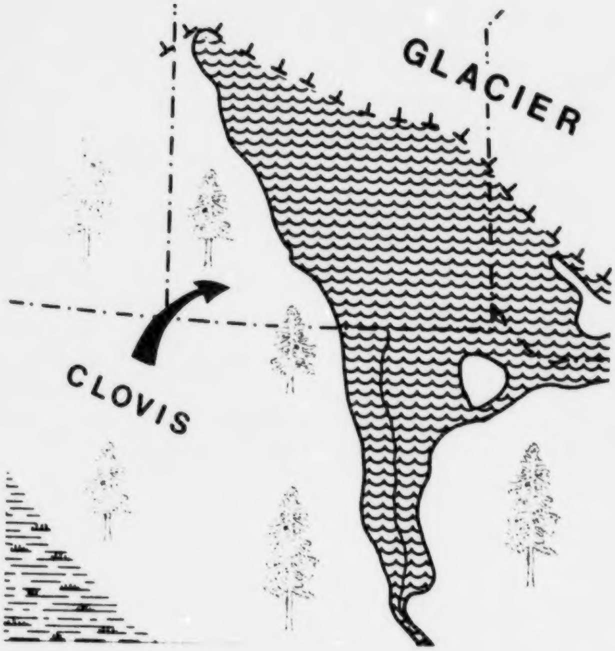
Evidence of the Clovis Culture is extremely rare in this province; no more than four or five isolated points are known from all of Manitoba, and none has been scientifically excavated from undisturbed deposits. Furthermore, the distribution is restricted; they were all found west of the Manitoba Escarpment, between Swan River and the American Border. However, this scarcity

A classic example of the Clovis point type from the south Riding Mountain district. Artifacts of this kind are very rare in Manitoba.



A reconstruction of the skeleton of the Columbian mammoth. The bones of these animals are very rare in Manitoba, and those on record do not relate to the Clovis Phase of 10,000 - 9000 years ago. This is no doubt a consequence of the fact that the province did not afford these animals the kind of natural environment to which they were adapted.

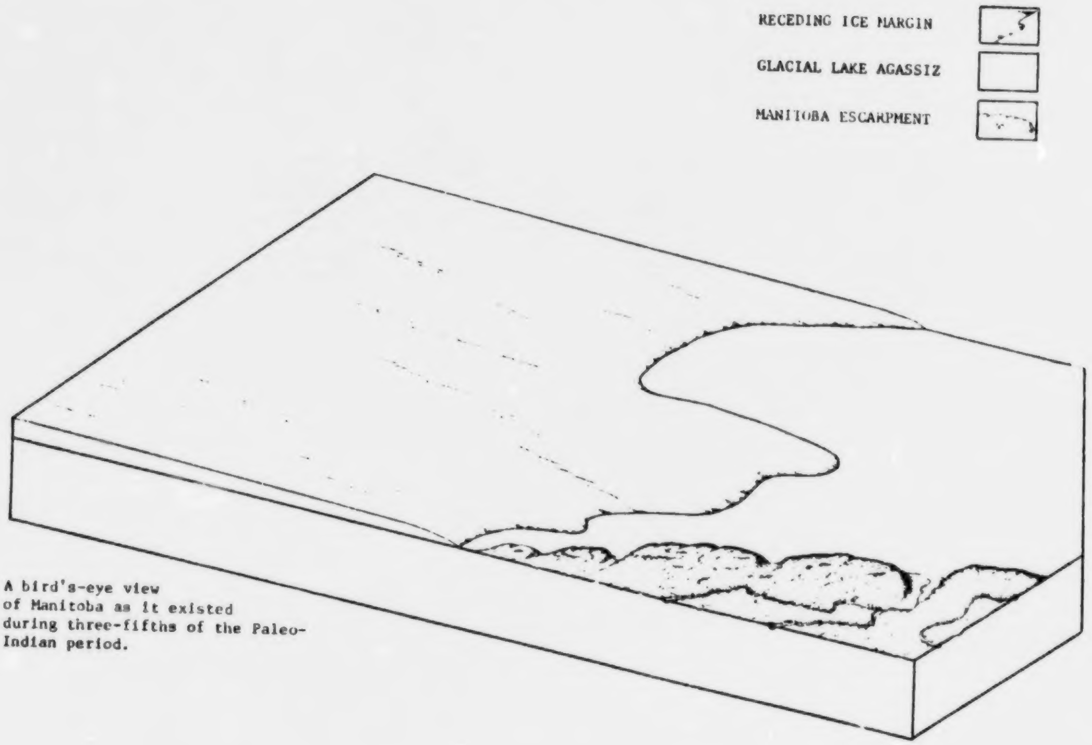
When Clovis people first ventured into Manitoba, most of the province was uninhabitable because it was either buried under ice or flooded by Lake Agassiz. Even those areas that were ice- and lake-free may not have been particularly attractive, since they were covered by a spruce-dominated boreal-type forest that probably did not support the numbers and variety of big game upon which Clovis Man based his livlihood.



is understandable when we look at the natural conditions that existed in Manitoba during Clovis times. For one thing, the entire northern half of the Province was covered by an active glacier, and one can hardly expect human beings to be making a living on top of a barren ice sheet! In addition, Lake Agassiz covered all of the area south of the ice and east of the Manitoba Escarpment. This leaves a relatively small segment of the province open and accessible to Clovis Man. And even here, conditions were not the best, for the "dry" landscape was covered with a mixed boreal-type forest that must have proven relatively unattractive to the large grass-eating animals that Clovis Man hunted for food. Compared to what the lush grasslands of the central and southern Plains had to offer big game animals, with their need for abundant food, Manitoba must have had relatively little to recommend it. It comes as no surprise, therefore, that traces of Clovis Man are scarce in our area.

THE LINDENMEIER CULTURE (9000 - 8000 B.C.)

As time went on, the Clovis points were replaced by the so-called "Folsom" points. These are characterized by greater refinement and skill in their manufacture, and the "fluting" is better developed. The "tool kit" otherwise remained much as before. The Lindenmeier period witnessed the advent of the "atlatl" or throwing board, which served to increase the strength and velocity with which spears and projectiles could be hurled. But the most conspicuous change between the Lindenmeier and Clovis periods is the disappearance of the mammoths and their replacement with bison as the prime animal species hunted on the Plains. This led to a change in hunting strategy, for whereas before the mammoths were taken on an individual or


RECEDING ICE MARGIN
GLACIAL LAKE AGASSIZ
MANITOBA ESCARPMENT

A bird's-eye view of Manitoba as it existed during three-fifths of the Paleo-Indian period.

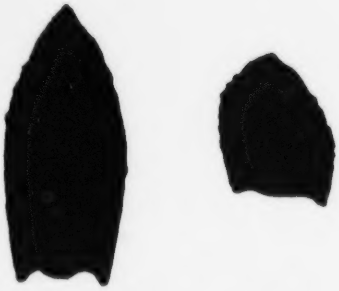
small group basis, the gregarious bison could be stampeded and driven into ravines and over cliffs en masse. Hence, a large supply of food could be secured at one time.

The Lindenmeier Culture is represented at several excavated sites in the Plains of the United States, where it has been dated by the C-14 method at between 9000 and 8000 years B.C.

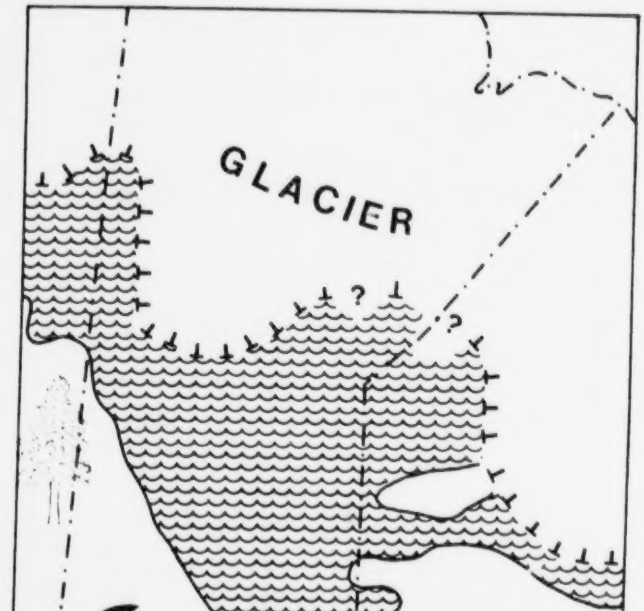
In Manitoba, the Lindenmeier Complex, like the Clovis, is represented only by scattered "surface" finds rather than by scientifically excavated sites. Although the Lindenmeier artifacts have been found in slightly larger numbers than the Clovis, their known distribution in the province duplicates that of the Clovis recoveries. Actually, the environment of Manitoba during much of Lindenmeier time was little improved over that of the preceding Clovis Phase; glacial ice still covered large areas, and Lake Agassiz continued to delay human habitation. But toward the end of the Lindenmeier period, the climate had changed to the point where most of the forest that had previously covered the ice- and lake-free terrain west of Lake Agassiz disappeared and was replaced with grassland. The grassland expansion, in turn, promoted the influx of bison, Lindenmeier man's preferred source of food. For this reason, the Lindenmeier Complex is somewhat better represented in this province than is Clovis. However, the Lindenmeier occupation of Manitoba was destined to be cut short by the entry of groups of a somewhat different cultural background -- aggressive folk who were more than ready to take advantage of the abundance of food "on the hoof" provided by the bison herds that roamed the Grasslands. It is to these that we now turn our attention.

THE PLANO PATTERN (8000 - 4500 B.C.)

About 8000 B.C., the northern and central Great Plains of Canada and the United States became populated with groups who, like the Lindenmeier people, placed great store in buffalo hunting. Some archaeologists believe that the earliest of these peoples were simply offshoots of the Lindenmeier



Two views of a Folsom point from southwestern Manitoba. These, like their Clovis counterparts, are very uncommon in this province, for much the same reasons.

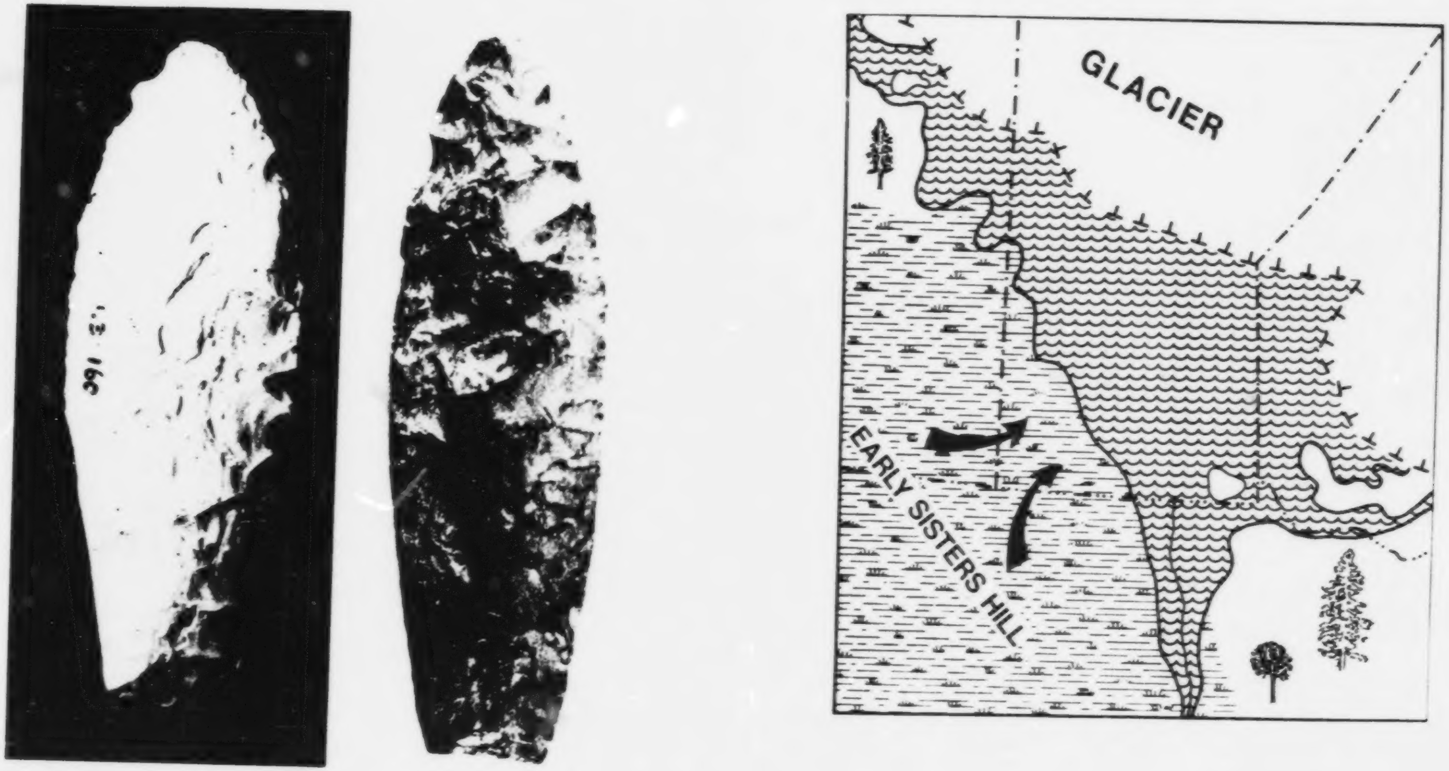


The Lindenmeier occupation of Manitoba took place at a time (9000 - 8000 B.C.) when most of the province was still covered by ice and glacial meltwater. The "high and dry" areas were still covered with a spruce-dominated forest, which failed to attract sizeable numbers of bison -- Lindenmeier Man's favoured prey. As a result, the corresponding archaeological evidence is very scarce.

groups, while others argue that this tradition spread onto the Plains from the high Plateau country west of the Rocky Mountains. In any event, the culture of these peoples is referred to as "Plano", which is Spanish for "Plains". Their cultural remains were characterized by a variety of projectile point types, which are differentiated on the basis of form, geographical distribution and, in some cases, age. That is, certain types are more common in one part of the Plains than the other, and some are older than others. Nonetheless, there is considerable overlap between the various types both in time and space, and all of the Plano point styles thus far identified in the United States have been recognized in Manitoba. For all their variety, the Plano points as a group are clearly different in form from the Folsom style with which they overlapped in time and which they eventually replaced. But apart from these relatively minor differences, the Plano Culture was very similar to the Lindenmeier.

In reviewing the known finds of Plano artifacts in Manitoba, one gets the distinct impression that more people were present here than ever before, or else they stayed around longer than had previous occupants, or both. By now, much of the territory that had formerly accommodated only forest was prairie and parkland capable of supporting an abundant bison population on which the hunters thrived. Furthermore, Lake Agassiz was progressively diminishing in size, so that land formerly accessible to neither man nor beast was now capable of sustaining a sizeable hunting population.

The first Plano complex to appear in Manitoba was probably the one archaeologists refer to as "Sisters Hill" (8000 - 5000 B.C.). It was likely introduced into the province from the south and/or west by people

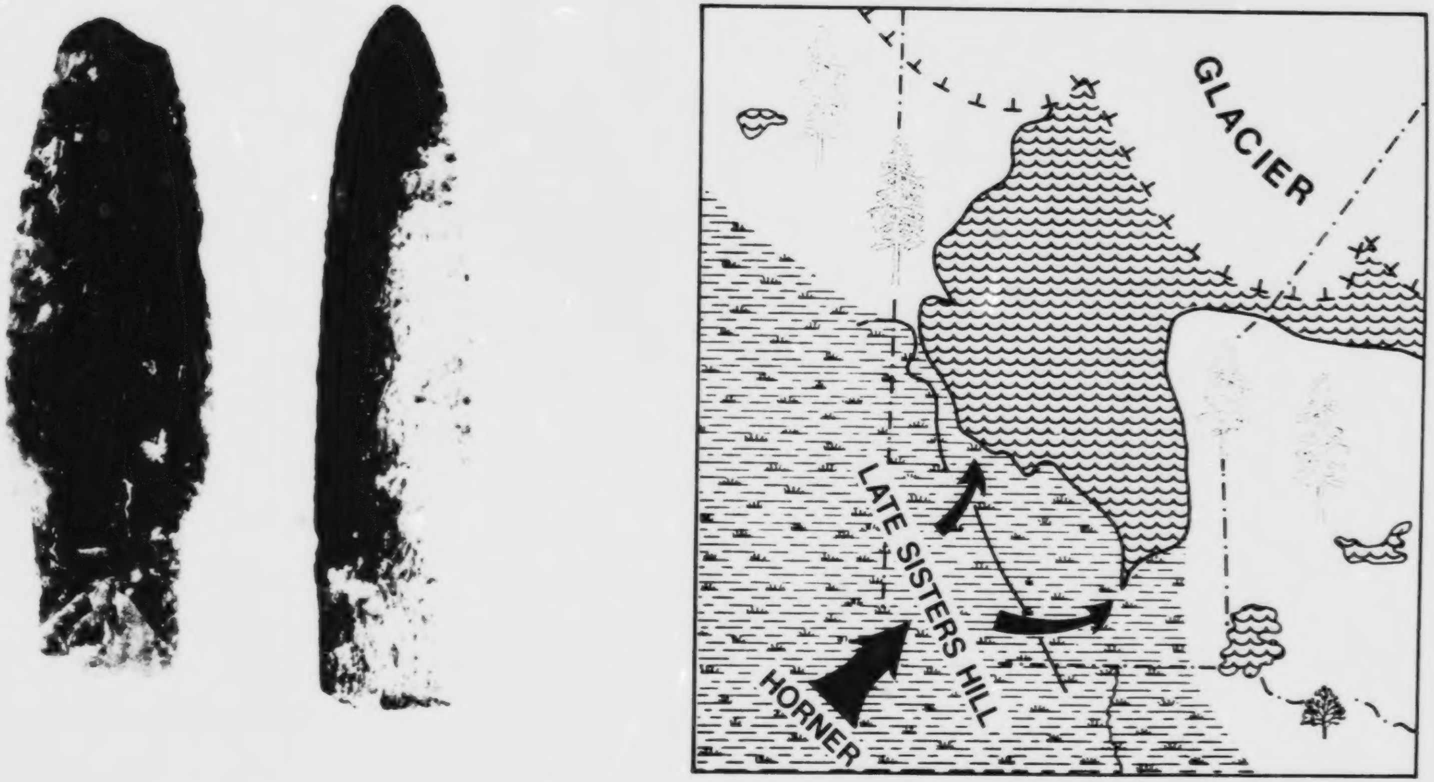


With the changeover from boreal-type forest to grassland ca. 8000 B.C., the countryside west of Lake Agassiz was colonized by human beings in comparatively large numbers. Hell Gap (left) and Agate Basin (right) points are among the most common types found in southwestern Manitoba. Together they comprise the markers of the "Early Sister's Hill" Complex.

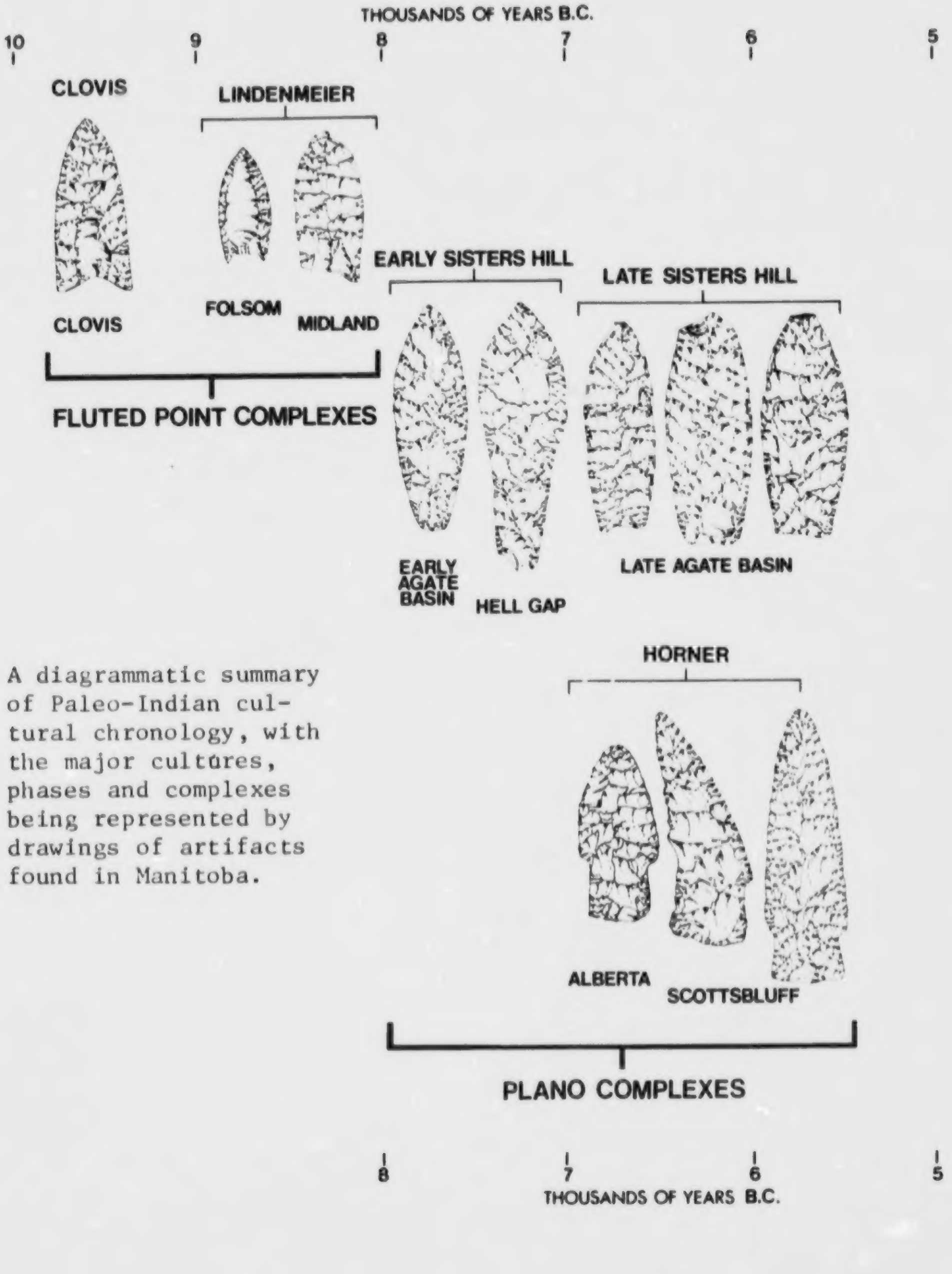
in pursuit of the herds of bison that roamed across the ever-expanding Grasslands. The ice sheet had by now completely melted away from the southern half of the province and Lake Agassiz had been progressively diminishing in size. The people immigrated onto the "mountains" and re-entrant country west of the Escarpment, but proceeded no further because the lowlands to the east were still for the most part inundated by the lake.

The Sisters Hill Culture was probably characterized by a continued emphasis on stone-chipping and hide-, wood-, and bone-working, nomadism, hunting of big game animals, and small group living in a "band"-type of society. Its most distinctive characteristics were the Agate Basin and Hell Gap projectile point types -- slender, lanceolate forms that are found in greater numbers in Manitoba than all the Clovis and Folsom points combined. The sudden change-over from boreal forest to grassland west of the Manitoba Escarpment around 8000 B.C. resulted in an influx of both big game and the people who hunted them.

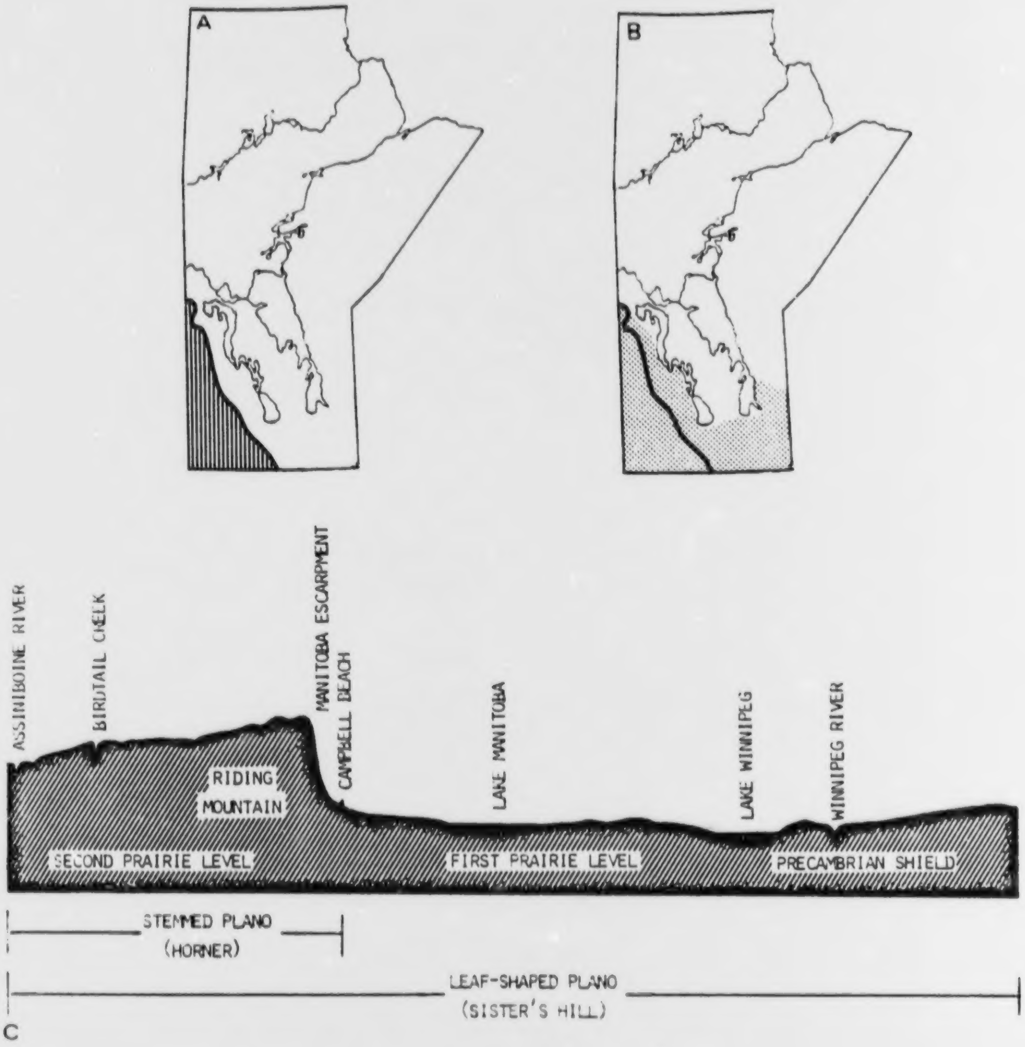
At some time between 7500 and 7000 B.C., yet another culture was brought into Manitoba. Also of southern origins, the "Horner" people, in their occupation of the country west of the Escarpment, may have caused population pressures that were in part responsible for the movement of the resident Sisters Hill groups eastward into the draining Agassiz basin. The northward movement of Horner people into western Manitoba may have been brought on by drought conditions to the south and west. Between 7500 and 6500 B.C., then, two more or less distinct populations occupied southern Manitoba -- the Horner people west of the Escarpment and the indigenous Sisters Hill people east of it. It is to this latter group that we now turn our attention.



The people of the "Horner Culture" moved into southwestern Manitoba around 7000 B.C., bringing with them their distinctive "Alberta" (left), "Eden" (right), and "Scottsbluff" points. By that time, Lake Agassiz had embarked on its final drainage, and the descendants of the Early Sister's Hill people took up residence in the emerging lake basin.


THOUSANDS OF YEARS B.C.
10
9
8
7
6
5
CLOVIS
LINDENMEIER
CLOVIS
FOLSOM
MIDLAND
FLUTED POINT COMPLEXES
EARLY SISTERS HILL
LATE SISTERS HILL
EARLY AGATE BASIN
HELL GAP
LATE AGATE BASIN
HORNER
ALBERTA
SCOTTSBLUFF
PLANO COMPLEXES
8
7
6
5
THOUSANDS OF YEARS B.C.

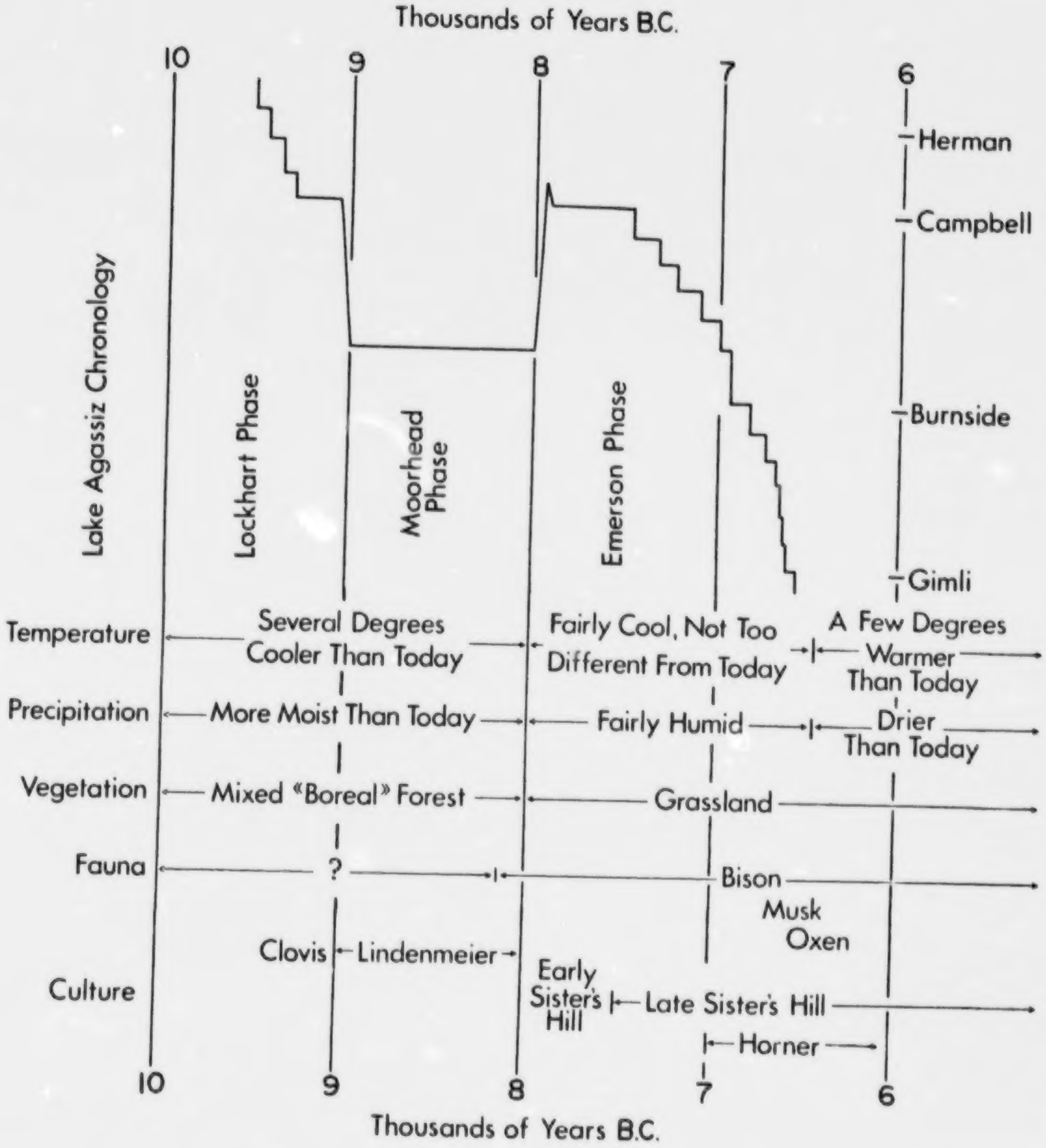
A diagrammatic summary of Paleo-Indian cultural chronology, with the major cultures, phases and complexes being represented by drawings of artifacts found in Manitoba.


A
B
ASSINIBOINE RIVER
BIRDTAIL CREEK
MANITOBA ESCARPMENT
CAMPBELL BEACH
LAKE MANITOBA
LAKE WINNIPEG
WINNIPEG RIVER
RIDING MOUNTAIN
SECOND PRAIRIE LEVEL
FIRST PRAIRIE LEVEL
PRECAMBRIAN SHIELD
STEMMED PLANO (HORNER)
LEAF-SHAPED PLANO (SISTER'S HILL)
C

Two ways of depicting the difference in distribution of Sister's Hill and Horner materials in Manitoba: A,B --maps; C -- exagerrated cross-section profile of Southern Manitoba at the latitude of Riding Mountain. The heavy diagonal line in the maps represents the western "Campbell" shoreline of Lake Agassiz (see p. 35). Note that the distribution of the Horner material (Map A) terminates at this strandline, while the Sister's Hill manifestations (Map B) are found both east and west of the Campbell shoreline. The same information is conveyed in Diagram C. Archaeologists have gone to some effort to explain why these differences exist, but "the jury is still out".

As Lake Agassiz progressively diminished in size, more and more landscape became permanently available east of the Escarpment, and the late Sisters Hill people (7500 - 5000 B.C.) moved off the Western Uplands and took up residence within the Agassiz basin. This complex was in most respects similar to the early Sisters Hill Complex from which it evolved; it differed in that it was later and occupied an expanded territory (i.e., the Manitoba Lowlands). Narrow, lanceolate Agate Basin-like points distinguish the assemblages. Eventually, the people made their way around the southern shores of Lake Agassiz to the Winnipeg River district. At that point, they (or their descendants) began to adapt themselves to a new environment -- the Boreal Forest. Let us consider the circumstances under which this "re-adaptation", expressed archaeologically in the form of the "Caribou Lake Complex", may have taken place.

We have shown above that, by 8000 B.C., peoples utilizing a tool kit incorporating lanceolate Agate Basin projectile points occupied the grasslands of central North America, pursuing a way of life focusing upon the communal hunting of bison. The details of this lifeway were likely similar to band-level bison hunters in the historic period. Summers were spent in the Grasslands, and "jumps" were occasionally employed to kill large numbers of the herd animals. With the onset of cooler weather, bison would begin to drift into more sheltered regions around the edges of the Plains to spend the winter. The beginning of this "migration" may have been heralded by the movements of the bulls, which may have preceded the larger migration of the cows and calves by two weeks. As in the historic period, the hunters moved into the bison wintering grounds slightly in advance of the main body of the herd. Particularly favoured spots for hunting were geographical settings which channeled the animals into a

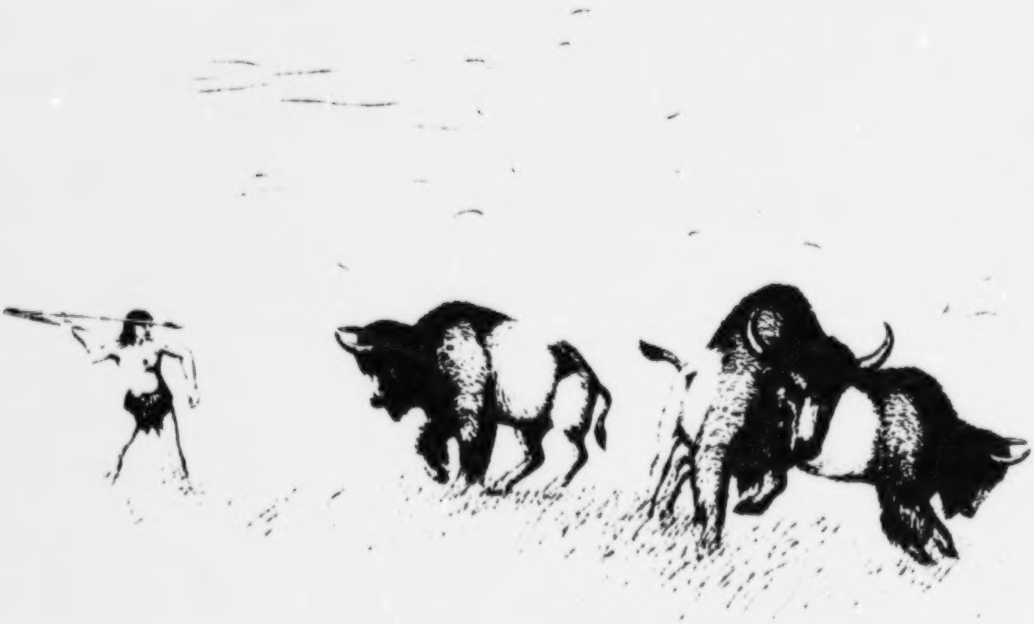


A correlation of natural and cultural history of Manitoba during the Paleo-Indian period. The "life span" of Lake Agassiz is divided into three main phases -- "Lockhart", "Moorhead", and "Emerson". The stepped line traces the changing levels of Lake Agassiz over time. Note that the lake fell to a low level between 9000 and 8000 B.C., that is, during the Lindenmeier cultural phase, before returning once again to high levels. These major fluctuations are thought to have been caused mainly by changes in the position of the glacial ice front in Northwestern Ontario, which alternately opened and closed the lake's outlets to the east. The words "Herman", "Campbell", "Burnside", and "Gimli" refer to major shorelines of the now-extinct lake.

certain area and restricted the speed with which they could travel, such as narrowings of creeks and rivers. If high ground was located nearby, camps would be situated somewhat away from the "crossing" so that the approaching herd could be spotted from some distance away.

Positioning themselves on the far side of the river, hunters could kill animals in great numbers as the latter emerged from the water, mired in the soft clay on the banks. The meat thus acquired would ensure a source of food throughout the winter. In all probability, dried meat was supplemented by meat from other animal species which were hunted throughout the winter, and perhaps by a store of plant foods collected in the late fall. It also seems likely that groups of bison could be hunted in the winter, providing fresh food to ease the monotony of dried meat. With the coming of spring, the bison would begin to drift back onto the Grasslands, and the nomadic bands of hunters would follow suit.

The gradual but erratic warming trend that marked the end of the Ice Age continued to the extent that by 6500 B.C., conditions were slightly milder than they are at present. The cause for this pattern was the increased dominance of the Pacific airmass due to the increased strength and frequency of the prevailing westerlies. These strong, dry winds, together with a frequent lack of precipitation and the high rate of surface evaporation, combined to desiccate the soils in many of the most arid parts of the Grasslands. The resulting erosion reduced vegetation cover and ultimately the ability of the



Two very important activities in the Paleo-Indians' lifestyle -- above, hunting the now-extinct big-horned bison with the use of the "atlatl", or throwing board and dart. The bison could be hunted by a single individual, as shown here, or by groups, or "communally" through the use of stampedes. Left, procuring stone (chert) from gravels or till in order to make tools.

more exposed areas to support plant and animal life. Bison, as well as the people who depended upon them for food, changed their ways to meet this environmental change. In the Plains, the largest numbers of bison were now to be found in the regions less affected by the warm, dry conditions. These were upland areas such as the Black Hills and Cypress Hills and the eastern foothills of the Rocky Mountains which, by virtue of their higher elevation, were capable of supporting trees; major river valleys, where abundant surface and ground water supported a greater density of plant and animal life; and finally the margins of the now-expanded Grasslands. At its maximum extent, the dominance of grassland vegetation reached north and eastward approximately to the Winnipeg River.

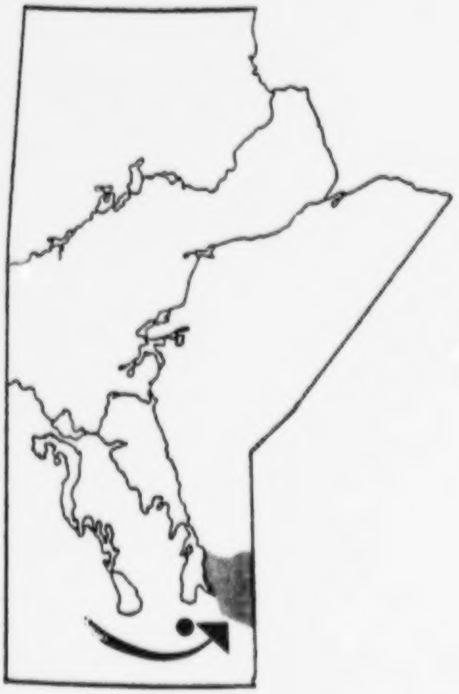
Consequently, the Winnipeg River, particularly its north and east banks, became a favoured area for the fall bison hunt. These spots were chosen not only because they were the banks that the animals would be moving towards, but because the hunters would also be positioned so as to be downwind of their approaching prey. At a number of narrowings along the river, temporary camps would be established on the nearest and highest available level ground. As the bison emerged from the water below camp, they were killed while mired in the clayey banks. The hides were removed and preliminary butchering took place wherever the animals fell. The hides were then taken to a nearby spot downwind of the camp for additional working and treating. Here the women would scrape and soften the hides and do most of the cutting. The leather would be used to manufacture clothing for the winter and possibly for the somewhat more substantia dwellings that the colder weather would necessitate. Some parts of the bison, possibly some of the internal organs, were eaten by the hunters immediately after the kill. Most of the meat was removed from the water's edge and hung upon racks for drying. Some was cooked and eaten in camp on the higher

Artifacts of the Caribou Lake Complex. The left group comprises projectile points and point fragments from a campsite on the Winnipeg River. The right group is made up of trihedral adzes from the same site.

ground after the kill. In the evening, spear points and knives were resharpened in preparation for the additional numbers of bison which could be expected the next day.

The atmospheric pattern responsible for the hot, dry summers had implications for the winter weather also. Winters began later into the year, and although snowfall was generally lighter than at present, there was an increasing tendency for the snow to partially melt and then refreeze, thus causing an icy crust to form. This not only hindered the ability of the bison to find feed but also to travel long distances. As in historic times, such conditions brought about a change in the seasonal habits of bison populations; lightness of snow cover on the Grasslands and the associated lessening of snow drifting, together with milder temperatures, discouraged the bison from travelling to wintering grounds located at the edges of the Grasslands proper. Additionally, the problems of snow encrustation prohibited long-distance travel in exposed areas. Consequently, bison tended to winter in sheltered places in the plains -- major river valleys and highlands.

Much more important (in human terms) than the decrease in the long-term average number of bison at the southwestern edge of the forests in the fall, however, was the fact that in some years no bison whatsoever would arrive. The same conditions which prevented (or at least discouraged) bison from reaching the forest edge would have disallowed people from returning to the Grasslands in search of the herds. The bands of people who had travelled to the forest edge in anticipation of the bison would have no alternative but to utilize the local resources of the Boreal Forest. Some small groups of bison may have inhabited the area at this time, judging by the recovery of the remains of a now-extinct species of bison near Kenora dated to approximately 3000 B.C., but it is highly unlikely that they were present in sufficient



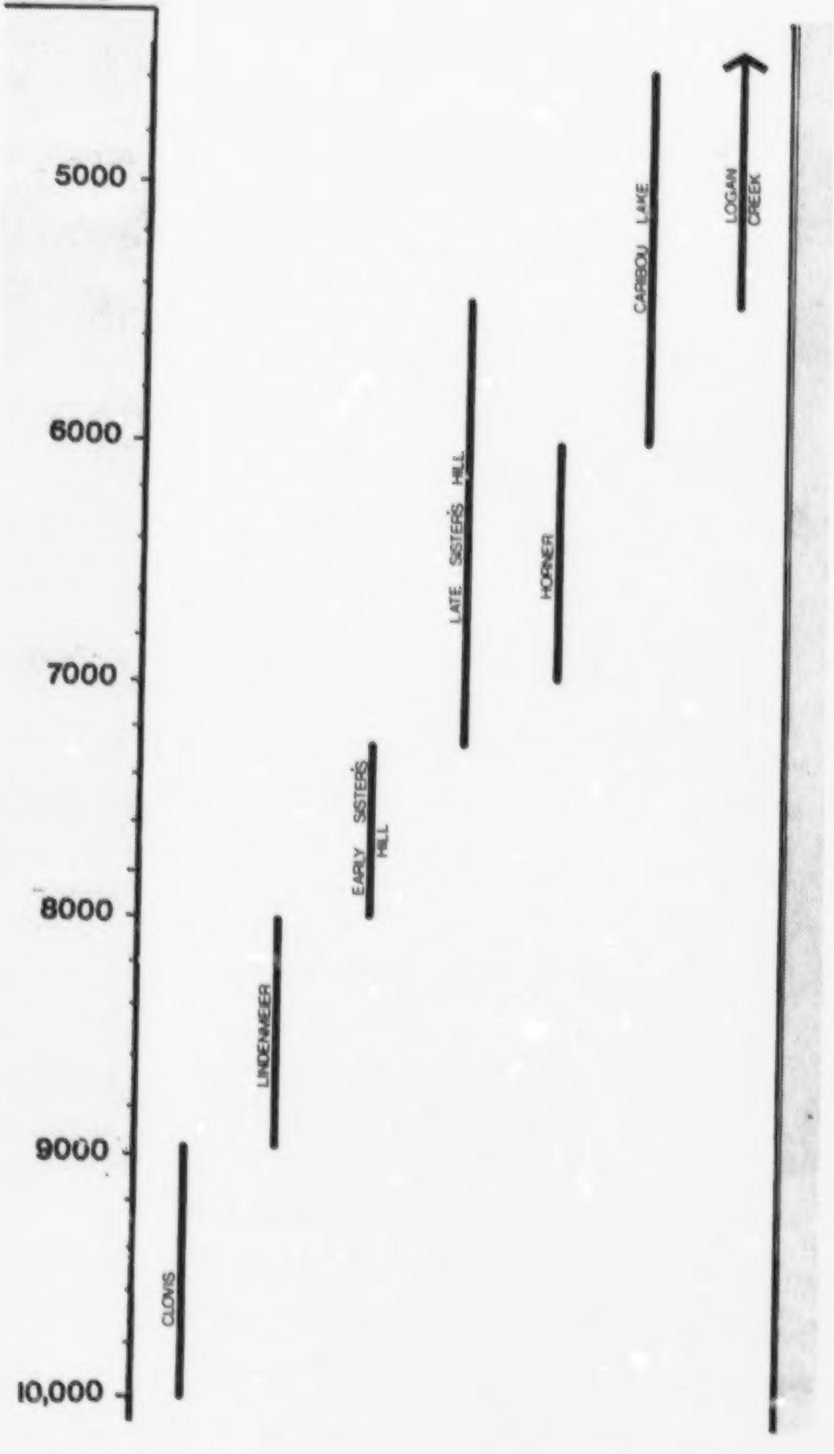
Distribution of the Caribou Lake Complex. The arrow indicates the direction whence the Late Sister's Hill forebears of the Caribou Lake people came. The dot represents an isolated projectile point fragment found at St. Norbert; the specimen was made of a type of stone found on the Canadian Shield, and probably represents a foray of a hunting party from a base camp in the Boreal Forest to the east.

numbers to provide the sole sources of food for people throughout the whole winter. Forest survival is almost synonymous with a varied, diversified food supply. The resources of the Boreal Forest -- moose, herds of caribou, deer in the south, and a variety of small mammals and birds -- allow a more reliable subsistence base than a specialized economy relying heavily on a single species. The location and distribution of Caribou Lake Complex sites bears witness to the beginnings of just such an unspecialized way of life.

Once occupying central parts of the forest for a greater part of the year, additions, deletions and alterations were made in the "tool kit" in order to accommodate the changed lifeway. The most obvious changes were in terms of the addition of "picks" in order to extract raw materials for the production of stone tools, and the development of the various forms of adzes for a variety of tasks involving woodworking.

Over time, the adaptation of these peoples became more closely tied to the resources of the Boreal Forest and less reliant on those of the Grasslands. The transition from a grassland to a forest lifeway may have been accomplished by means of a successive shifting in the areas utilized for specific seasons. This may have taken the form of an intermediate cycle involving fall use of the forest edge for bison, and the interior forests for a variety of resources throughout the remainder of the year. Whatever the case, by the time that the archaeological culture is recognizable as the Caribou Lake Complex, site distribution is restricted almost entirely to the Boreal Forest.

Cultural chronology of the Early Prehistoric Period, 10,000 - 4500 B.C. The "Logan Creek" Culture is described in the following section; the arrow at the upper end of the Logan Creek time line indicates that this culture extended on into the subsequent Middle Prehistoric Period.

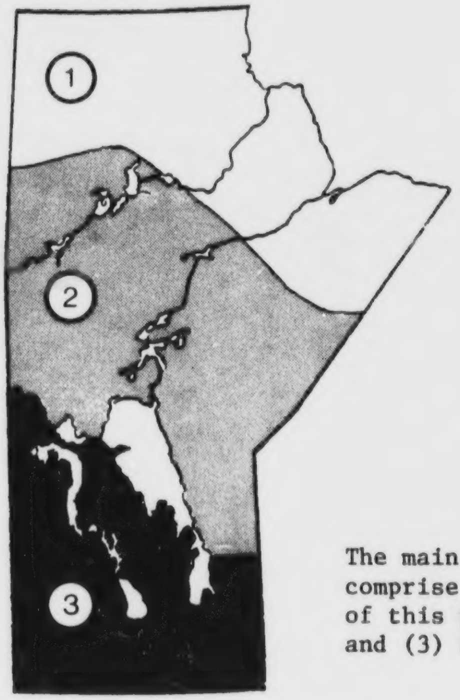

Years B.C.
5000
6000
7000
8000
9000
10,000
CLOVIS
LINDENMEIER
EARLY SISTER'S HILL
LATE SISTER'S HILL
HORNER
CARIBOU LAKE
LOGAN CREEK

MIDDLE PREHISTORIC PERIOD

INTRODUCTION

By the time the Ice Age had drawn to a close, human beings were occupying most of Manitoba. However, massive environmental changes, such as the final disappearance of the ice sheet, the demise of Lake Agassiz, and the trend toward warmer and drier climate, had demanded a re-organization in human culture to meet the new environmental conditions. By 5000 B.C., Manitoba had become sufficiently diversified in its natural composition to accommodate several archaeologically distinguishable cultural adaptations.

At this juncture, it is appropriate that the province be subdivided into several parts. We do this because we have reached the point where we cannot speak about the entire province all at once; cultural variability throughout Manitoba in Middle and Late Prehistoric times was such that the archaeological record of one area by no means "speaks for" that of another. Accordingly, the province has been subdivided into three major parts: "Southern", "Central", and "Northern", and these will form the framework of our presentation from this point forward.



The main subdivisions of the province that will comprise the organizational basis of the rest of this presentation: (1) Northern, (2) Central, and (3) Southern Manitoba.

SOUTHERN MANITOBA

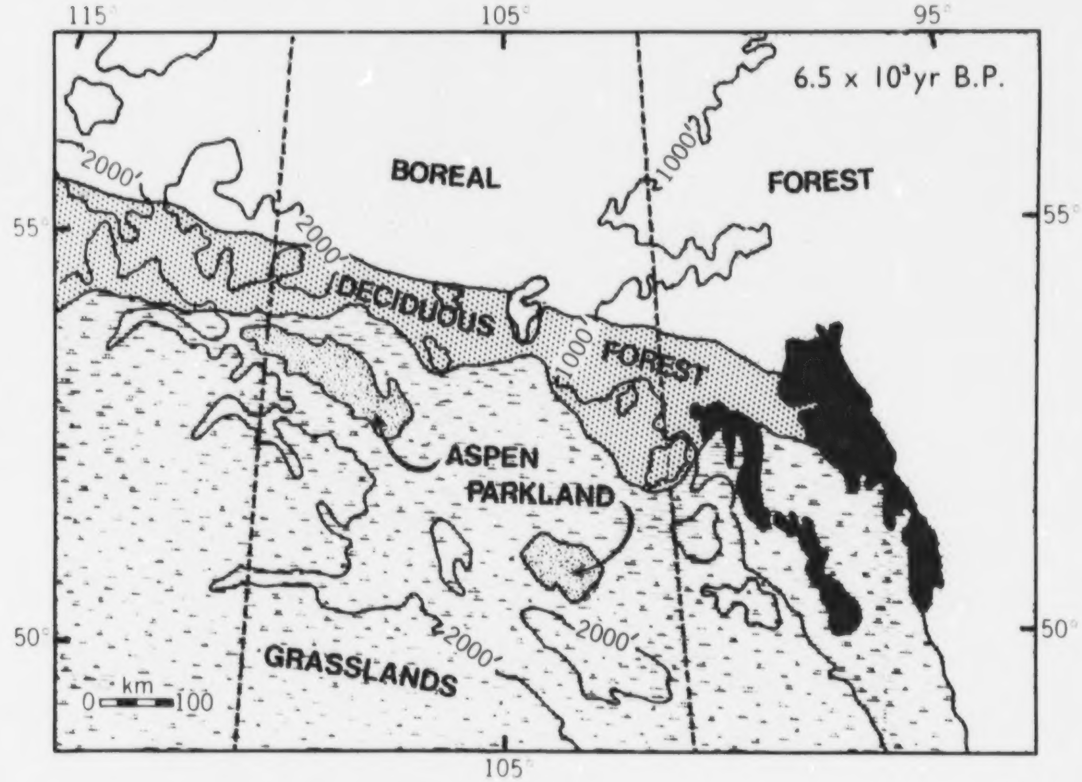
THE "ALTITHERMAL"

In our consideration of the Early Prehistoric period, the natural environment and environmental change were topics of major interest. This is likewise the case during the Middle Prehistoric Period, especially on the Grasslands. Certainly the most important climatic phenomenon to express itself during this time was the "Altithermal", a period of comparatively high heat and aridity.

Botanical studies and soil science clearly show the existence of a warm, dry interval on the North American Grasslands after the end of the Ice Age. The Altithermal was earliest in the south and later in the north, but the period from 5500 to 3000 B.C. covers the warmer-and-drier-than-present period in most areas. Its peak was rapidly attained (ca. 5200 to 4600 B.C.) but the cooling off was a more gradual process. The long duration of a warm climate may have been the result of increased solar activity in the latter part of the Altithermal. Some regions may have witnessed a brief respite from Altithermal warmth around 4500 B.C., but it is unknown whether this occurred in all of the Grasslands. Many of the forested areas surrounding the Grasslands actually received more precipitation during the Altithermal. This is particularly evident in the northeastern woodlands (including Manitoba) and along the Rocky Mountain chain.

The simplest explanation of this climatic pattern is the increased dominance of mild Pacific air that became "locked in" over the Plains. The result was an increase in mean July temperature of $1^{o}C$; a 5-cm decrease in precipitation during the growing season; a longer, warmer growing season; less frequent winter storms; clearer skies; stronger westerly winds; and a lighter winter snowfall. These factors, in combination, are known to greatly increase soil aridity, the outcome being increased wind erosion, natural fires, and locust infestations.

The botanical evidence clearly demonstrates an expansion of the grasslands by approximately 150 km in the north and 60 to 80 km in the east.


115°
105°
95°
6.5 x 10^3yr B.P.
BOREAL
FOREST
2000'
2000'
1000'
55°
55°
DECIDUOUS
FOREST
1000'
ASPEN
PARKLAND
50°
50°
2000'
2000'
GRASSLANDS
km
0
100
105°

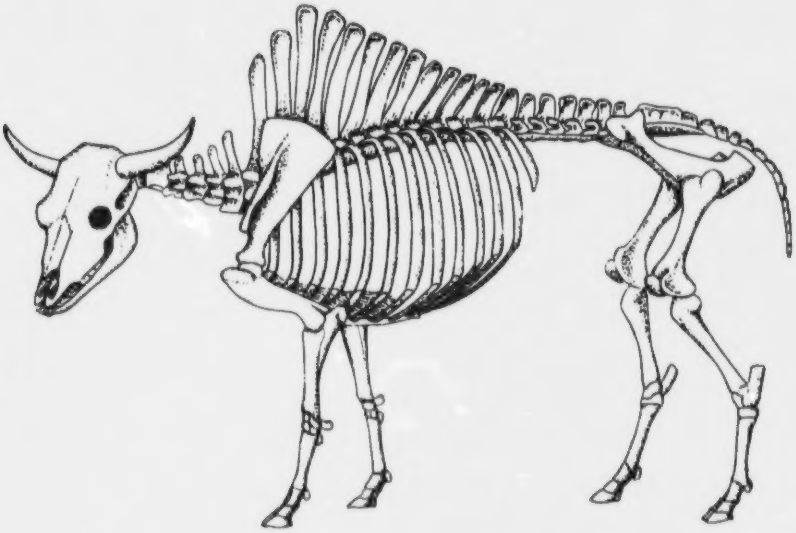
The central interior of western Canada, showing the distribution of the major vegetation zones ca. 4500 B.C. Note that the Grassland extended much further to the northeast in Manitoba than it does today.

Examination of the responses of grassland vegetation to the drought of 1929 to 1939, however, indicates that these would not be associated with an increase in food for grazers such as bison. While long grasses became relatively more numerous compared to trees at the forest edge, and long grasses gave way to shorter grasses in the Central Plains, the overall abundance of the Grasslands was reduced to one-quarter of its former potential. The effects of drought were most heavily felt in the shortgrass Plains of the United States, where no species could be said to thrive.

Desiccation of the Grasslands would undoubtedly cause a depletion of the bison herds by lowering their winter survival rate, their vitality during the breeding season, the health of the cows during gestation, and the vitality of the calves. The extent of this herd reduction is undetermined, but studies of the response of range cattle to drought point to a figure roughly equal to the reduction in carrying capacity of the vegetation. The herds may have become sufficiently small that large-scale bison hunting by sizeable groups of people was no longer productive except under exceptional circumstances.

Once a new balance of nature had been reached, it would have been maintained for long periods of time. Grassland vegetation requires approximately five years to regenerate after a major drought. Assuming a yearly climatic variability equal to that in the modern times, the probability of five "normal" years falling one right after the other is very low. In other words, the remaining herds of bison would have been most numerous in those areas which supported the greatest density of the grasses upon which they depended for food. These were the margins of the Grasslands (including Manitoba), the major river valleys, and areas of higher elevation which are characterized by a decreased rate of moisture evaporation from plants and from the soil. Once established in these more favourable localities, bison may have remained there year-round as they are known to have done in mild years during the historic period.

Since the end of the Ice Age, bison body size had been gradually diminishing, possibly due to the advantage smaller and more agile animals would have in eluding man the hunter. This trend, which increased during the Altithermal, may also be seen as a biological response to the reduced carrying capacity of the natural environment, as smaller animals are more energy-efficient.



A reconstructed skeleton of the extinct Bison occidentalis. Bones of this species have been located as far east as the Kenora district in Northwestern Ontario, where these animals lived as recently as 2800 B.C. It would appear that this form was the prey of Native hunters well into the Middle Prehistoric Period.

Altithermal climate also affected indigenous hunting and gathering peoples -- directly in terms of the availability of surface water and indirectly through the shift in the amount and distribution of animal and plant resources. Before the Altithermal, Plano peoples ranged across central North America pursuing a nomadic way of life focusing upon the hunting of bison. Their diet was to some extent supplemented by smaller mammals and a variety of plants. With the onset of the Altithermal in late Plano times, sources of surface water in the plains became scarce and more unreliable. The drying of streams, smaller tributaries of major rivers, many springs and the ponds raised the distance between sources of water beyond an easy day's travel. This alone should have produced greater use of the major river valleys and forest margins. Additionally, the large grazing animals which provided the major source of food were also moving into these places in response to the decreased productivity in the Plains proper.

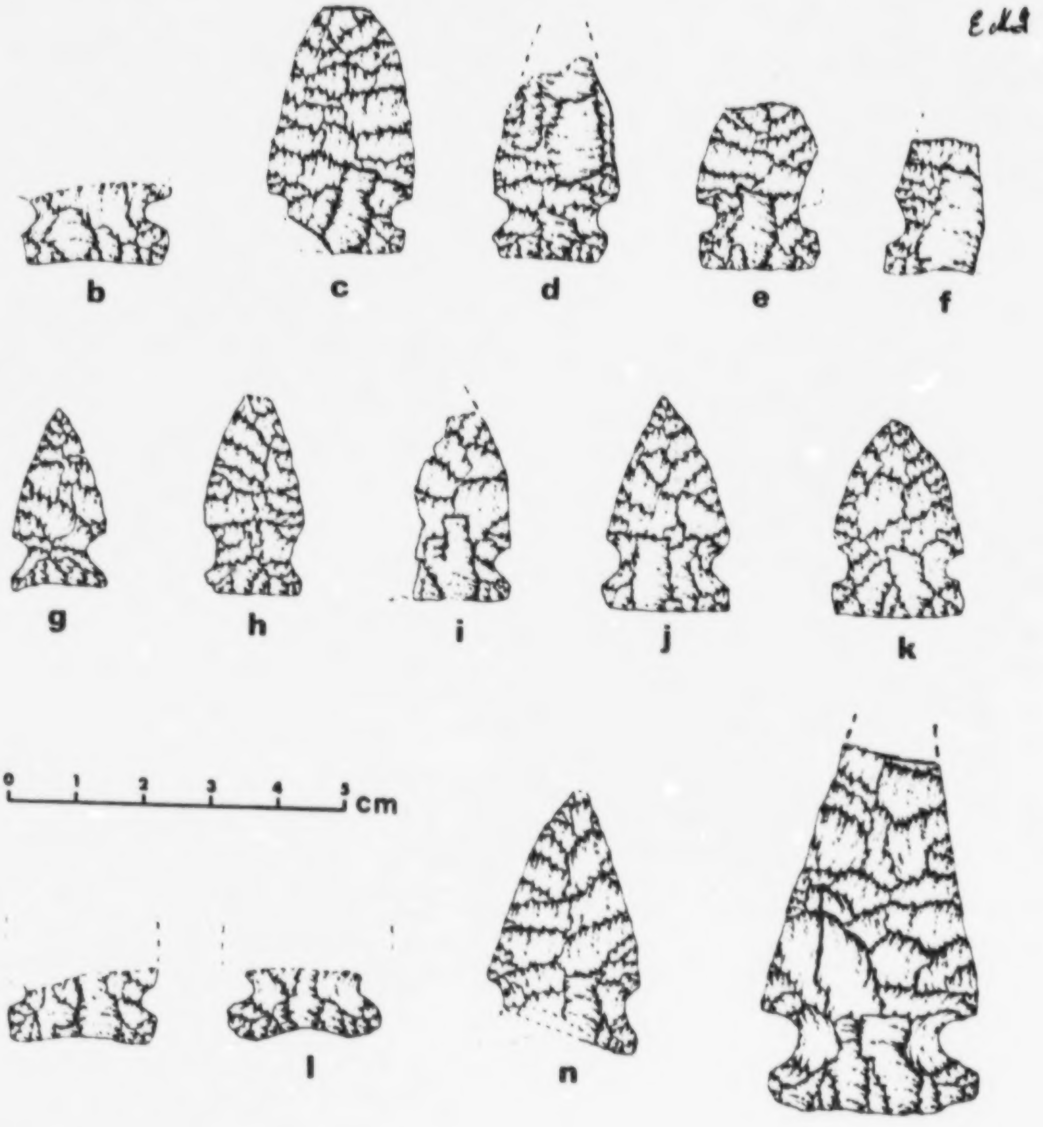
At the height of the Altithermal, human populations were distributed in major river valleys at the eastern margins of the Grasslands (i.e., in Iowa and Missouri) and in the better-watered areas of higher elevation -- particularly the Cypress Hills of Saskatchewan and Alberta, the Black Hills of South Dakota and the foothills of the Rocky Mountains. The only reliably dated site in the Plains proper at this time is near a perennial spring.

THE LOGAN CREEK CULTURE (4500 - 500 B.C.)

While in the eastern margins of the Plains, late Plano peoples had some contact with the contemporaneous inhabitants of the eastern forests. The distinctive side-notched projectile points and side-notched end-scrapers which originated in the eastern woodlands appear in association with a variety of western Plano forms in sites occupied by bison-hunting peoples along the eastern margins of the grasslands. The archaeological material from these sites are grouped into the "Logan Creek Complex". By following the Red River Valley northward, bands of Logan Creek people may have introduced their culture into Southern Manitoba. Evidence for such an occurrence has been found along the Winnipeg River.

It is at this time that the descendants of the Plano bison hunters began to exploit more seriously a wider variety of food resources for a number of reasons: they were obliged to live in a transition-type environment which supported a greater density and diversity of plant and animal life. Consequently, the resources necessary to support a diverse economy were present. Plant collecting, the hunting of small game and perhaps the harvesting of shellfish were already part of the food-getting practices in the eastern margins of the Plains, and hence diversification was simply an intensification of one aspect of the existing economic system, rather than a radical change. The widening of the food base may in turn be seen as a response to the reduction of the bison herds, the increased risk of heavy dependence upon them for food and, perhaps, to the lessened productivity of communal hunting techniques. The role played by contact between Logan Creek peoples and eastern forest-dwellers, who had already shifted to a diverse economy, cannot be accurately assessed. The obvious efficiency of this way of life, however, must have been an encouraging factor in the adoption of new food-getting activities by the Logan Creek people.

By 3500 B.C. the severe conditions of the Altithermal had largely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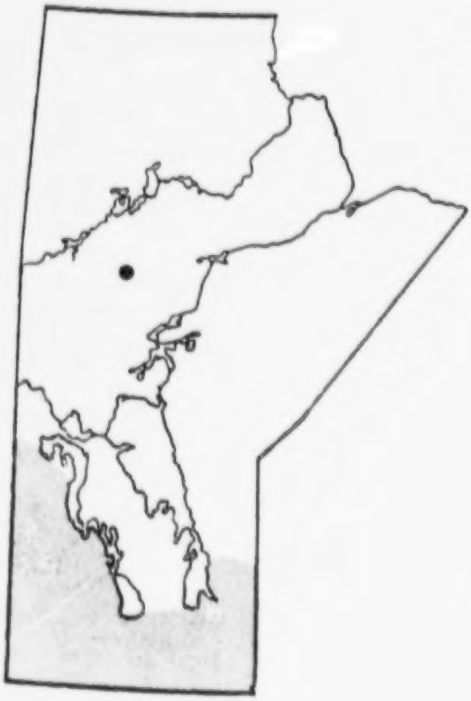
Whole and fragmentary projectile points of the Logan Creek Complex from Manitoba. These were found in the Swan River Valley; their antiquity has been estimated at anywhere from 5500 to 500 B.C.

moderated, and by 3000 B.C., vegetational zones had achieved their modern character if not quite their historic locations. With this period came a human population increase in the Grasslands. The wooded uplands and river valleys continued to be favoured areas for site location, but the open Grasslands were now also heavily occupied. A "transhumant" pattern of bison hunting may have been initiated at this time, with communal hunting of the animals in the Grasslands in the summer and smaller scale bison hunting at the forest edges and outliers in winter. Most of these wintering areas were the uplands and river valleys which had previously been occupied for a greater portion, if not all, of the year. Clearly, the end of the Altithermal and the corresponding increased carrying capacity of the plains permitted a heavier resource exploitation and increased population density in the Grasslands. The archaeological complexes that equate with the post-Altithermal Middle Prehistoric period are referred to as "Oxbow", "McKean", "Old Copper", and "Pelican Lake".

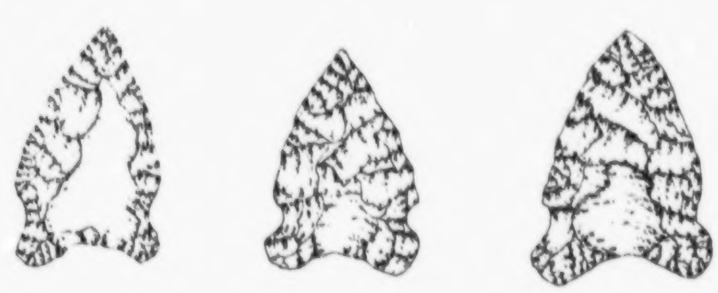
THE OXBOW CULTURE (3300 - 1000 B.C.)

Oxbow Complex sites are concentrated north of the Missouri River in northern Montana, Alberta, Saskatchewan and southwestern Manitoba. There seems to be a relationship between site age and location. Fourth millenium (4000 - 3000) B.C. sites are located in the Grasslands while third millenium (3000 - 2000) B.C. sites are generally in Grasslands and forested areas. Second and first ium B.C. sites are located only in forested situations. From this, it n rred that those sites that occur in the third millenium B.C. r transition from a plains-oriented way of life to a forest-oriente tyle.



The known distribution of the Oxbow Complex in Manitoba. The dot shown on this map and on others like it in the pages that follow indicates isolated or outlying finds that appear to be well removed from the major area of distribution as presently conceived.

The Oxbow assemblage consists of side-notched, concave-based eared projectile points (the reworking of projectile points is a common feature of Oxbow technology), oval biface knives, end-scrapers, perforators,



Oxbow points from the Swan River Valley.

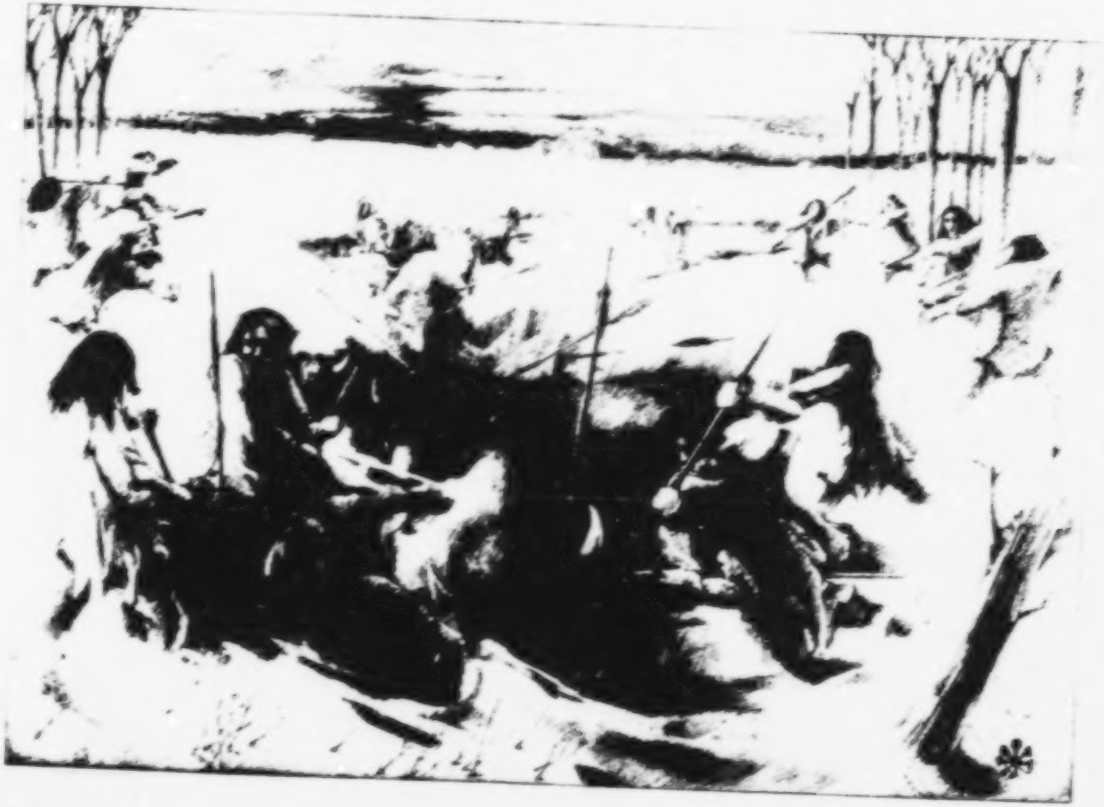
drills, side-scrapers, pebble hammerstones, crude choppers, anvil stones and fire-cracked rocks or boiling stones. Bone, shell and antler were also used. Awls were fashioned from antler or bone, and longbone scrapers and bone flakers were made as well. Drilled clam shell pieces have also been recovered from Oxbow sites.

The Oxbow subsistance base was bison, but other species were also utilized -- elk, wolf, dog, fox, rabbit, goose, clams, hackberries and cherries were eaten.

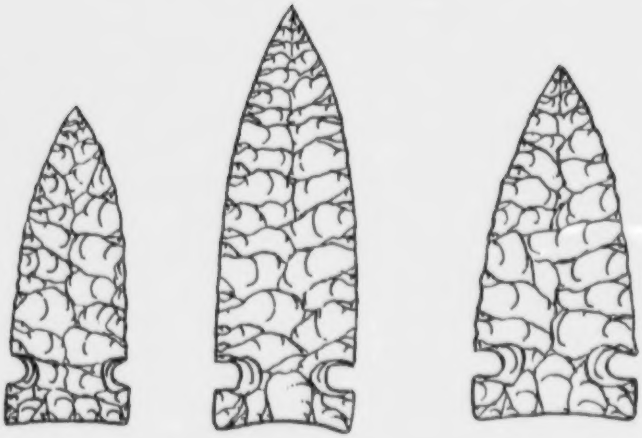
The tool kit and the size and nature of most Oxbow sites indicate the use of a nomadic hunting and gathering way of life. Bison were hunted by the use of "jumps". Oxbow settlements were located on stream or river terraces.

Two theories on the origin of the Oxbow Complex prevail. One asserts that Oxbow may be traced to the Eastern United States, where projectile points have been found that are morphologically comparable to Oxbow and of earlier age. These sites seem to be related to yet older sites still further to the east. The second theory is based on more recent information; it asserts that the Oxbow Complex represents a continuation of lithic technology from the "Bitterroot", "Salmon River", and "Mummy Cave" complexes of western North America. It seems likely that Oxbow developed out of one or more of these complexes, because the oldest Oxbow sites seem to be in the west while the younger sites are located more to the north and east.

Examination of historical documents indicates that bison spent summers on the Grasslands grazing in large groups. With the advent of cooler



Bison hunting among the aspen groves of Southern Manitoba was an important winter activity during the Middle Prehistoric Period. It is an example of communal effort of the sort that can be traced back into the Early Prehistoric Period.



Early Side-notched points from the western Plains states of North America. Variously termed "Bitterroot", "Salmon River", and "Mummy Cave", these forms are thought by some to be the forerunners of the Oxbow type.

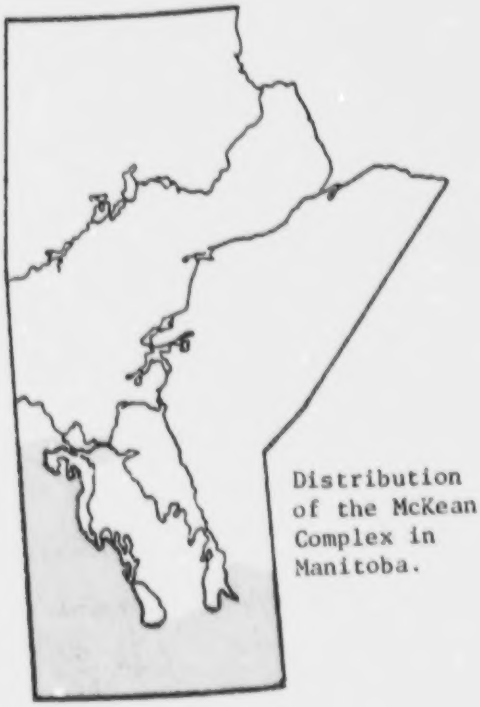
weather, they split into smaller groups and moved to the edge of the Grasslands for the duration of the winter. Aspen groves, local patches of forest and the forest edge were particularly favoured wintering areas, as they provided the bison with shelter from the winds and were not as prone to snow compaction as were the exposed grasslands. Historically, Native Plains Indians have been observed following a similar pattern of seasonal bison hunting, and this mode of food-getting has been inferred for some Middle Prehistoric groups on the Plains. This overly-simple model for Oxbow Complex peoples is at least partly contradicted by the presence of Oxbow points further into the Boreal Forest than the expected winter penetration of Plains bison.

A number of factors are known to have disrupted the classic pattern of seasonal bison migrations. Bison would avoid grassland areas which had recently burned over or which had been infested with locusts. Both of these events result from extended hot, dry periods. In winter, heavily crusted snow after a sudden thaw-freeze would hinder bison movements. Extreme cold would have little effect on them but, when associated with strong winds, bison would be forced into wooded areas, even if no food was available there. In years which witnessed a sudden dense snowfall, bison would be prevented from reaching the forest margins by the depth of the snow. In an extremely mild winter, on the other hand, bison could winter in the river valleys in the grasslands and few, if any, would arrive at the forest edge. Historically, both Whites and Native peoples moved into the usual bison wintering areas in advance of the bison, and the latter's failure to arrive caused considerable hardship. If the Native peoples would not obtain food from the fur traders' stores, they frequently faced starvation in these areas. Unfortunately, the fur traders were usually in a similar predicament. Some other option, then, must have been present in prehistoric times, as unusual winters in which bison were unable or unwilling to travel to the forest margins may have been fairly common, perhaps as frequently as one year in five. In some winters at least movement back onto the Plains would have been hampered by the same conditions which were responsible for the inability of the bison to reach the forests. The only real alternative would appear to have been for Native peoples to travel deeper into the forest in search of other forms of large game. The drifting or crusting of the snow that may have occurred on the Plains would not have occurred in the forest. Furthermore, shelter and firewood were readily available, and extremely severe winters may have actually facilitated the hunting of moose and caribou, as these animals are known to move about more, thus leaving more fresh tracks in times of extreme cold. The diversity of habitats within a small area in the Boreal Forest increases the possibility of finding either moose or woodland caribou within any given area. Plains bison are known to have penetrated into the Boreal Forest during prehistoric times, and were exploited by Native groups. Even the Winnipeg River did not constitute an effective barrier, as the cranium of an extinct form of bison was recovered from the east bank in association with an "Old Copper" weapon point. Oxbow faunal inventories are dominated by bison in the Grasslands and around the forest edge, while moose, caribou and a variety of smaller game animals predominate at Oxbow sites in the forest. Bison bones are absent at the latter stations. It seems most probable that it was the "regular" recurrence of especially harse winters that provided the stimulus for movement into the forest by Oxbow and subsequent Middle Prehistoric bison-hunting populations of the Hanna and Pelican Lake Phases (see below). Consequently, the tool-kits of grassland and forest Oxbow sites would be expected to be different, not only as a function of different habitats but because of seasonal differences as well.

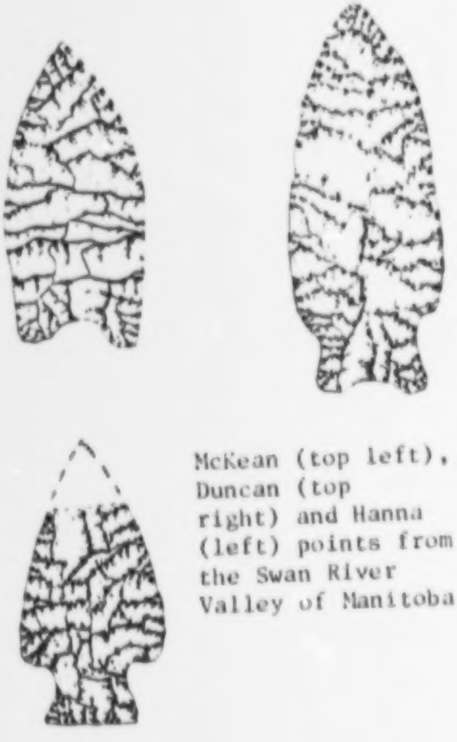
Finally, it should be pointed out that the Oxbow period (ca. 3300 to 1000 B.C.) was a time of climatic moderation. This segment of the Middle Prehistoric Period was characterized by cooling temperatures, increased precipitation, increases in winter storms, and the commencement of a southerly shift of the southern margin of the Boreal Forest. The frequency of very severe winters would have increased during Oxbow times, resulting in an increased tendency for winter exploitation of the forests. Combined with the southerly movement of the forest edge, we would expect more frequencies of late Oxbow sites in the forest and a tendency for an inverse relationship between site age and degree of forest penetration. In general terms, this appears to be the case; with few exceptions, the oldest Oxbow sites tend to be situated in the Grasslands and Aspen Parkland, while later ones seem to be more frequent in more boreal environments. If the trend is significant, it provides additional confirmation of the importance of short-term climatic fluctuations in site distribution and subsistence modes of prehistoric peoples.

THE MCKEAN CULTURE (3000 - 1000 B.C.)

The McKean Complex consists of McKean Lanceolate, Duncan, and Hanna type projectile points and associated tool inventories. Sites are found througnout the Northern Plains from areas now covered by the Boreal Forest in Manitoba to the prairie grasslands of Wyoming; McKean components are found at various ecological levels ranging as high as 9000 feet in a pass of Little Bald Mountain in Wyoming.



Distribution of the McKean Complex in Manitoba.



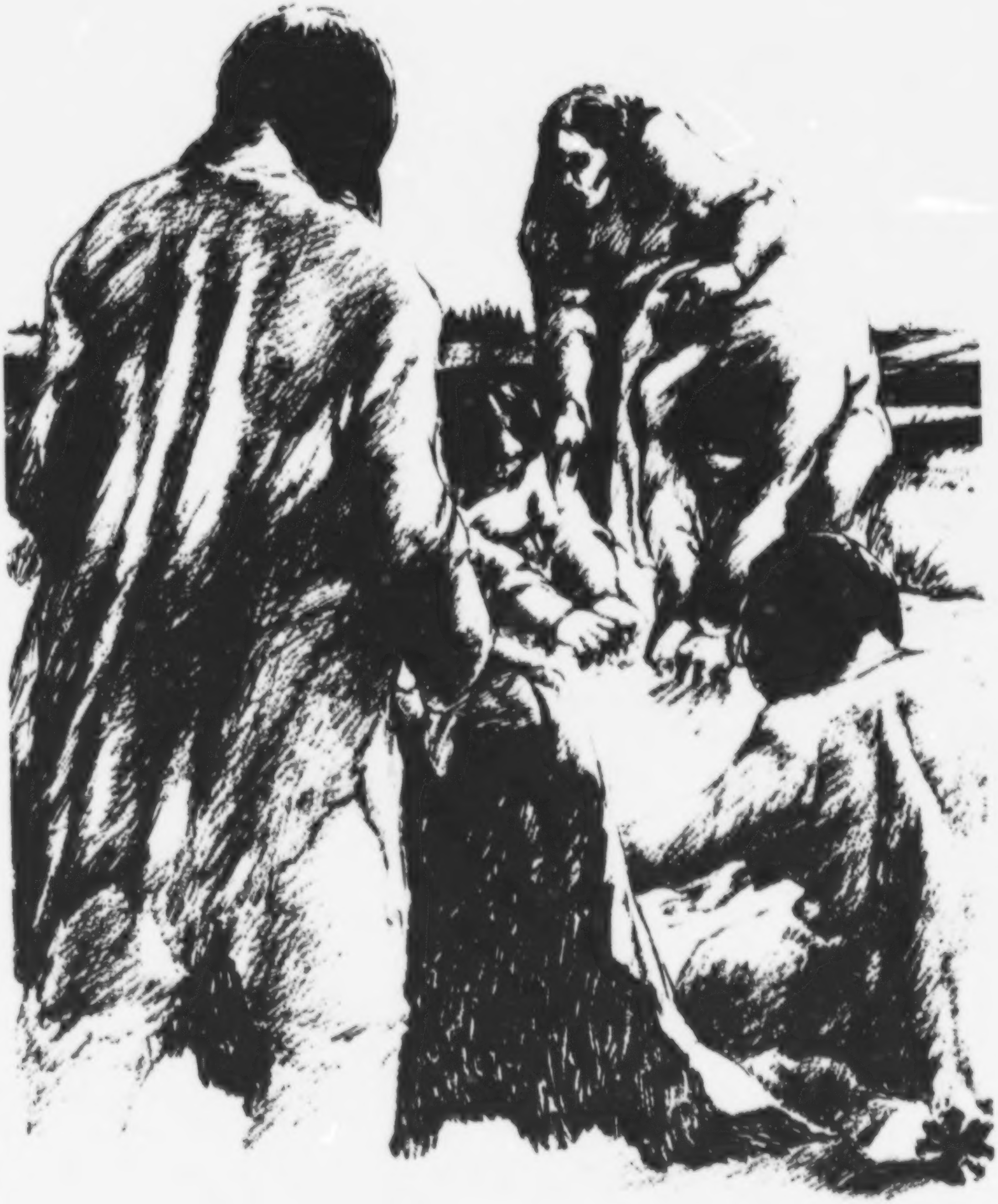
McKean (top left), Duncan (top right) and Hanna (left) points from the Swan River Valley of Manitoba.

The lithic industry produced a variety of forms in addition to the projectile points noted above: thumbnail, flake, dome-shaped, small triangular, and tabular end-scrapers; ovoid blanks and/or biface knives, crude chopping tools, multi-sided ("polyhedral") cores, utilized flakes, pebble hammerstones, and fire-cracked rock. Features included shallow oval hearths lined with stone, and possibly square house structures. Most of this inventory derives from sites in the United States.

After looking at sites in the United States where perishable artifacts have been found, it seems likely that we can infer that McKean hunters in Manitoba had a well-established pattern of activities that were probably as sophisticated as the historic Natives'. Tanning was known and clothes were sewn with cordage from various plant fibers or sinew. Bone was used for awls and scrapers. Beads were being made and were probably decorative. Games of chance using bone "dice" were probably being played in much the same manner as historic Indians used blackened cherry pits.

The McKean Phase faunal assemblage is variable, depending upon geographical location. Northern grassland McKean sites are dominated by bison bones and this situation obtains at least as far east as the Winnipeg River. The minor occurrence of other species both in southeastern Manitoba and on the High Plains is more indicative of secondary dietary supplementation than a diversified unspecialized economy. Consequently, a seasonal round of subsistence based on summer bison hunting in the Grasslands and winter bison hunting in the adjacent Parklands may be inferred from southern Manitoba. Unfortunately, the faunal inventory of McKean sites in the Boreal Forest is poorly known.

Other evidence indicating the variety of subsistence activities



Women scraping a bison hide. Among societies such as those typical of Southern Manitoba during the Middle Prehistoric Period, the men killed and butchered the prey, while the women processed the hides -- an arrangement referred to by anthropologists as "division of labour according to sex".

includes the geographical locations and the presence of certain artifacts such as manos and metates, or milling stones. Their presence at several sites from the Western Plains states indicates that the grinding of certain food materials was important. It is not possible to state whether seeds, berries, or nuts were processed by using these tools but their presence indicates that food collecting may have been an important supplement to hunting.

The absence of manos and metates in Manitoba may mean that the types of foods conducive to grinding were not being utilized or else were prepared in some other manner. We must be careful not to assume that hunting and fishing were the only food sources because of lack of preservation and absence of grinding stones.

As the hunters who used McKean projectile points moved from one geographical area to another, and as the environments shifted due to changing climatic conditions, they appear to have adapted their tool inventory and food sources to the changing conditions. Even during the direst periods, their subsistence patterns were probably sufficiently flexible to enable them to exist in most of the Northern Plains, particularly in Manitoba where there is a relatively higher rainfall and greater variety of ecological zones than in the southern part of the Northern or Central Plains.

How large were the groups of McKean hunters and did the groups vary in size from season to season? Were there several distinct ethnic groups interacting when it was advantageous to do so, as with the historic Cree and Assiniboine? There may be some correlation between the McKean Lanceolate, Duncan, and Hanna types and three interacting but identifiable ethnic groups. Henry Kelsey reported in 1690 that the Assiniboine could distinguish their arrows from those of the Cree and Blackfoot, even though the Cree and Assiniboine interacted frequently and all three tribes used common buffalo hunting grounds. The three types definitely found within the McKean range of variation have been found in "pure" components, e.g., only McKean Lanceolate points at one site, or only Duncan points at another, but they also have been found mixed together at other sites that were obviously occupied by a very small number of individuals. If the Oxbow variation is included within the McKean Complex, then four ethnic groups would have to be considered.

THE OLD COPPER CULTURE (3000 - 1000 B.C.)

Although copper artifacts of one kind or another were probably known to residents of Manitoba for some 7000 years, it was during the period 3000 to 1000 B.C. in particular that they were most common. So distinctive are these objects, that prehistorians have applied the name "Old Copper Culture" to the archaeological complex of which they are a part. Approximately 50 Old Copper specimens have been found in the Boreal Forest, Grassland and Aspen Parkland areas of Southern Manitoba.

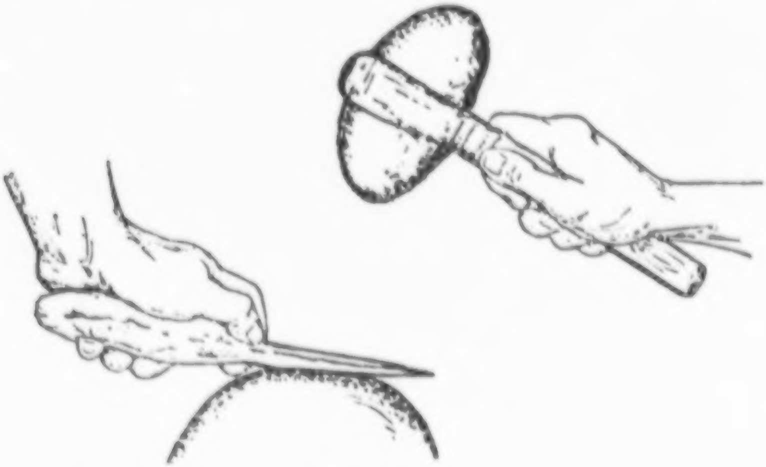
The copper was worked into heavy tools, sheets, pins, and ornaments. Old Copper artifacts include projectile points of various types, knife blades, crescentic-shaped objects, awls, punches, needles, drills, adzes, chisels, wedges, gouges, axes, fishooks, harpoons, bracelets, and beads. Manitoba, as yet, has not yielded all of these forms.

Old Copper artifacts are typically light maroon in colour with pale green spots in some of the shallow surface cavities and occasional

A lanceolate spear point of copper found near McCreary, Manitoba. The shape of this artifact is reminiscent of that of the Paleo-Indian Agate Basin type, and on this basis the suggestion has been made that it represents intermingling between a late Plano complex and an early Middle Prehistoric complex that originated to the east.

black encrustations superimposed over the green spots. Metallurgical analyses of certain Manitoba specimens show them to be almost pure copper, containing 99.5 to 99.95% Cu with very small traces of other elements.

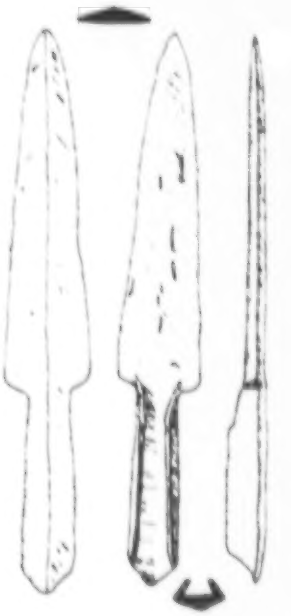
As for manufacture, it is believed that the basic shape of most Old Copper artifacts was achieved by a combination of cold hammering and annealing, that is, heating the metal to prevent it from becoming brittle. While this may be true for most specimens, recent studies indicate that for certain later specimens manufacture was achieved by hot forging at a temperature above 1000°C but below the melting point of copper (1038°C).



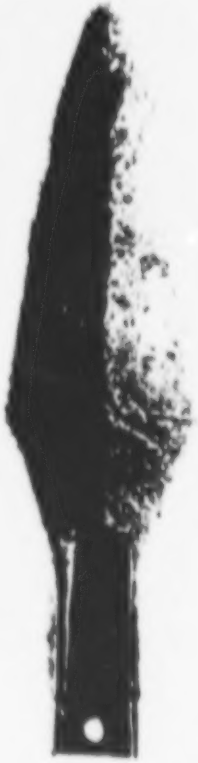
Most Old Copper artifacts are believed to have been formed by "cold hammering" through the use of a hammer, perhaps of the sort depicted here, or simply a hand-held cobble, and an anvil stone. To ensure that the copper did not become brittle in the process, it was "annealed" or heated.

All of the copper used in the Old Copper complex was mined in the Lake Superior Basin - some from mines along the north shore of Lake Superior, but much came from thousands of prehistoric copper mining pits found in the Keweenaw Peninsula on the south shore and from Isle Royale situated opposite the present city of Thunder Bay. Attempts to pin artifacts down to a specific source using trace element analysis have not proven conclusive.

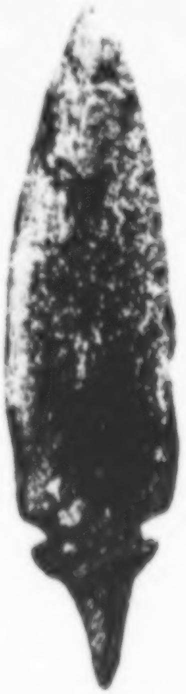
One important question about the Manitoba Old Copper discoveries concerns their age. In the heartland of the Old Copper Complex, around Lake Superior, some forms resembling Late Paleo-Indian types may push the earliest use of copper back to 4000 or 5000 B.C. After the Late Paleo-Indian forms began to disappear, socketed forms referred to as "Type 1A"



A "Type 1A" Old Copper point (left) and a "Type 1B" specimen (right), a variation on the socketed point theme.



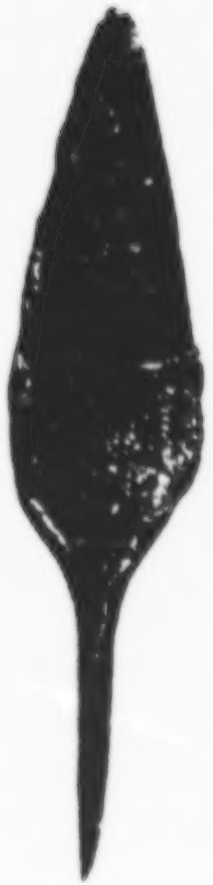
were developed. Soon after the socketed forms came tanged forms of which "Type 1E" is one variation. Type 1Es are fairly numerous in Wisconsin, Ontario and Manitoba, but are rare in Minnesota and not recorded at all in Michigan and New York. Surprisingly, the 1E point type has not been found anywhere in a datable context.

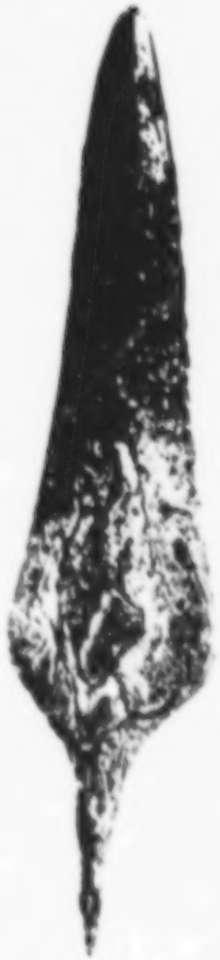


A "Type 1E" specimen of Old Copper point. This example was found in the Neepawa district.

It has been speculated that Type 1E had an age of 1000 to 1500 years B.C. However, the Jansson Site on the Winnipeg River produced a Type 1E point, some other copper artifacts, a side-notched chipped stone dart point, and a bison skull that probably represents an extinct species. If so, it could push the age of Type 1E backward in the order of 3000 B.C.

Another question about finds northwest of the Great Lakes heartland is: were they the result of long-distance trade or of the



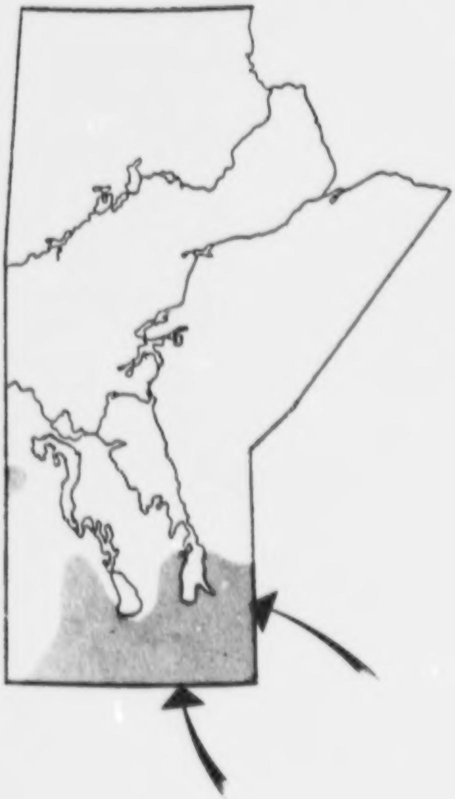


Old Copper points of of the "rat-tail" variety: left -- a "Type 1C" specimen; right -- an example of the "Type 1D" category.

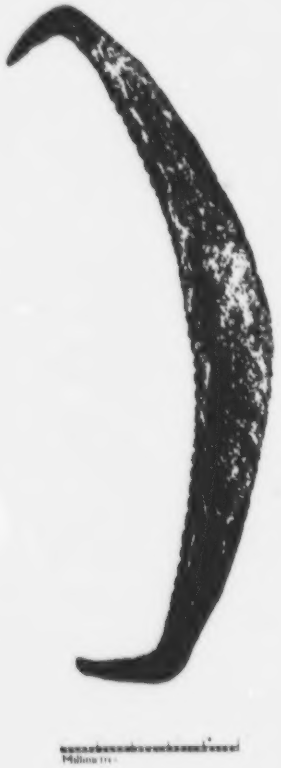
migration of people? Evidence from an excavated Old Copper component situated in Nopiming Provincial Park has a bearing on this question. The site shows the presence of a wide range of tools, with copper represented by finished artifacts, waste material called "trim bits", and even a nugget of raw copper weighing almost one kilogram. These findings are taken to mean the site was occupied by Old Copper people, not simply an indigenous group who had acquired finished copper artifacts by means of trade.

Two other basic questions are *why* and *how* did Old Copper people and artifacts find their way out of the Great Lakes heartland into the northwestern interior of Canada? In answer to the first question, one expert postulates that the main movement of Old Copper groups, people with a lake-and-forest adaptation, into the northwest coincided with an environmental change occurring after 3000 B.C. The change was from warm, dry conditions to a cooler, moister climate. Along with climatic change came a shift in the Boreal Forest southwestward around Lake Winnipeg to a new position near the southern end of the lake between 2000 and 1500 B.C. Thus, a forest-grassland transition zone having many of the same characteristics as the old transition zone between land and water around the Great Lakes was created, and the Old Copper people expanded into it. This expansion would have required little, if any, change in their subsistence strategy.

The question of how Old Copper moved into the northwest also has some plausible answers. The earliest Old Copper forms, the Paleo-Indian lanceolate shapes and the first socketed types, may have been carried into Manitoba directly from the south, the route being along the Red River in the dry bottom of Lake Agassiz. Later, when the environment changed, Old Copper migration followed a different route; this time it was along the Winnipeg River from Lake Superior to Lake Winnipeg, thence south and west into the rest of southern Manitoba. This second route is indicated by a relatively dense and fairly continuous clustering of Old Copper finds along the Winnipeg River. It is interesting to note that both the Red and Winnipeg River routes were used as main avenues of transportation by European fur



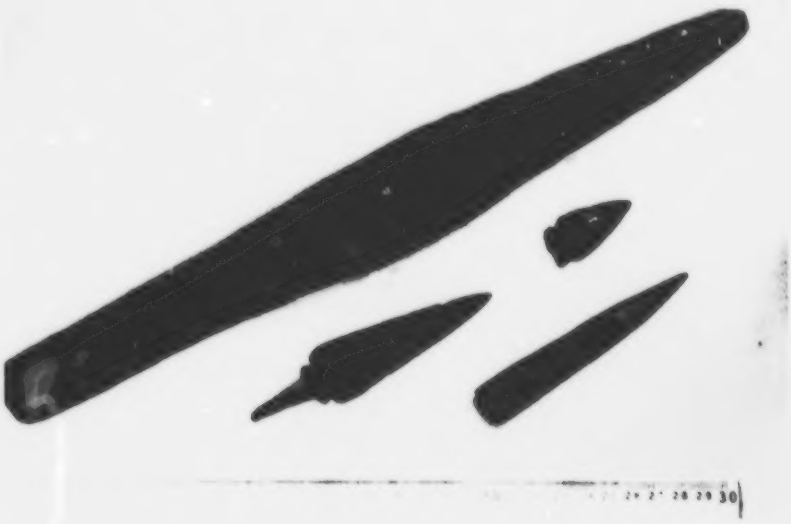
The known distribution of Old Copper artifacts in Manitoba. The lower arrow represents the direction in which the earlier expressions of Old Copper were introduced into the province, that is, via the Red River Valley. The upper arrow represents a subsequent incursion via the Winnipeg River.



An example of the Old Copper "crescent" from Miami, Manitoba. The basic shape of these objects, among other considerations, has led to the suggestion that they were symbols in a religious cult that centred around worship of the moon.

traders at a much later time. Moreover, the historic traders did not stop in Manitoba, but continued from Lake Winnipeg into the other great waterways of the northwest, first to the Saskatchewan River and from that into the Churchill River system. Now, Old Copper remains have been found on both these waterways in Saskatchewan. Since fur traders followed the established routes shown to them by Indians, it is entirely possible that Old Copper finds in northern Saskatchewan could have been carried by Old Copper peoples over these same routes.

A rather intriguing thing about the copper artifacts is that they did not replace stone tools as the dominant form of implement as time went on. Indeed, they themselves virtually disappeared from the "tool kits" of later peoples, and that copper which was used in later times in southern Manitoba was applied mainly to the manufacture of ornamental, rather than basically functional objects.



Old Copper artifacts found with the remains of an extinct form of bison on the Winnipeg River: a large chisel, a Type IE projectile point, a stone side-notcned projectile point, and a copper pike-end or "ice probe".

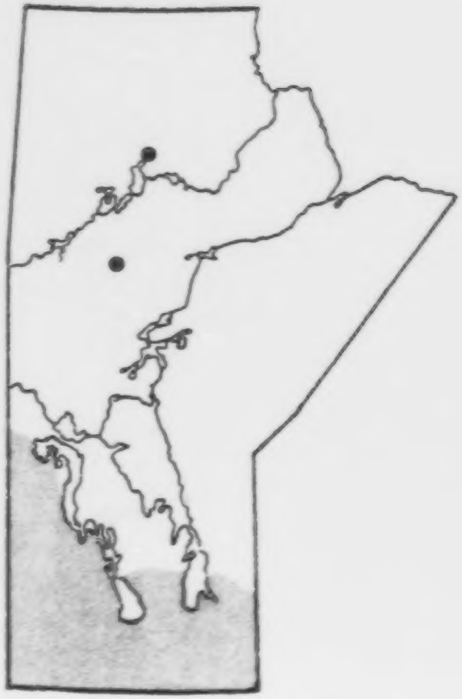
THE PELICAN LAKE CULTURE (1000 B.C. - 1 A.D.)

The Pelican Lake projectile point type has a wide distribution on the northern Plains and adjacent regions. "Larter Tanged" points found at the Larter Site on the Red River north of Winnipeg appear to be a closely related variety but are wider and thicker than the Pelican Lake points found to the west. Other artifacts associated with the Pelican Lake points include end scrapers, ovate bifaces and retouched lamellar and prismatic flakes. The use of the atlatl is known from sites in northwestern Wyoming, but pottery has not been found associated with Pelican Lake materials.

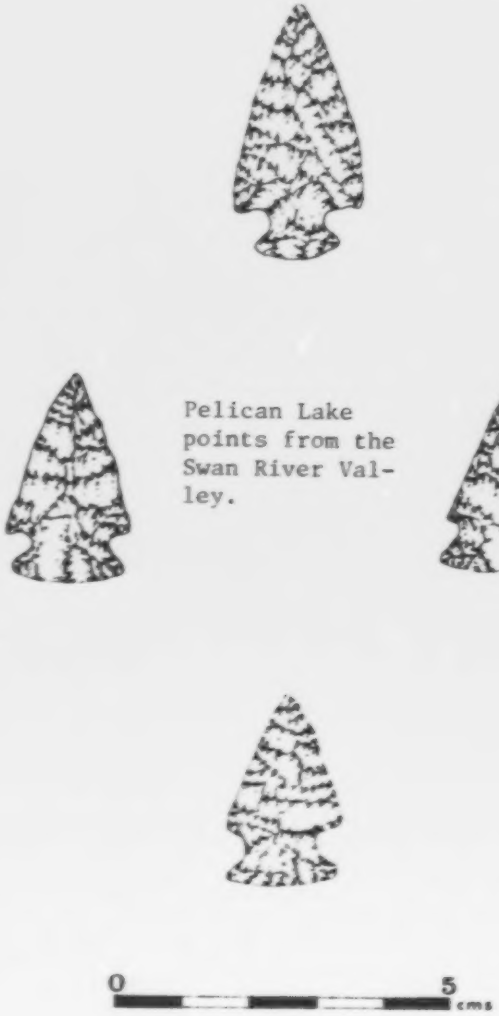
It seems likely that the Pelican Lake phase was an indigenous development, at least in some parts of the Plains, growing out of the McKean Complex. Hanna points exhibit incipient corner notches and barbed shoulders which may have given rise to the distinctively barbed and corner notched Pelican Lake points.

Faunal assemblages from Pelican Lake components point to a specialized big game hunting economy centering on the bison. This is particularly true in the northern components such as Layer 4 of the Long Creek Site in southern Saskatchewan where all of the faunal remains, except for a few canids and a duck, consist of bison bones. Bison kill sites on the northwestern Plains show intensive use of bison pounds and jumps by Pelican Lake peoples.

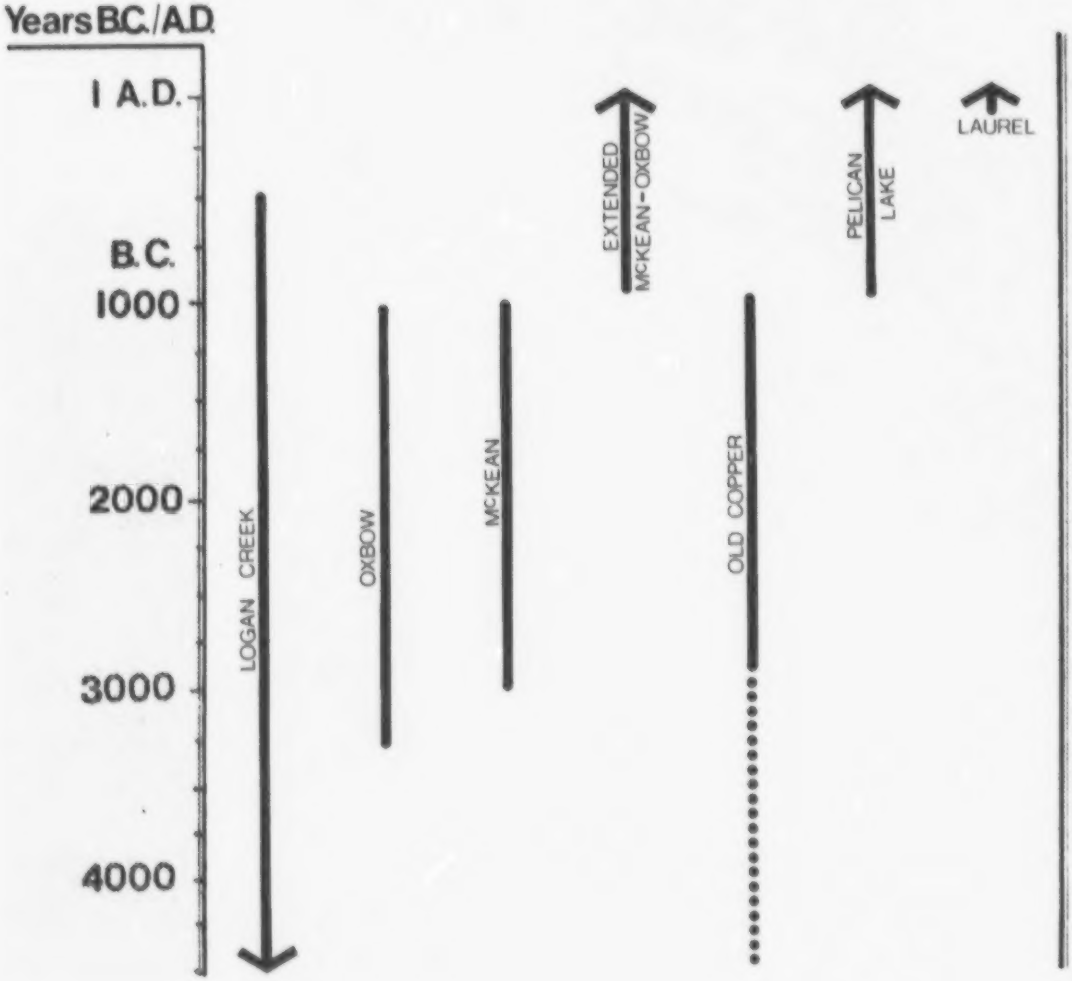
Pelican Lake phase campsites are often extensive, with tipi ring sites indicating seasonal occupation by fairly large groups. An economy oriented toward bison hunting suggests the presence of nomadic bands which probably coalesced into larger groups for seasonal bison hunts.



Known distribution of the Pelican Lake Complex in Manitoba.



Pelican Lake points from the Swan River Valley.

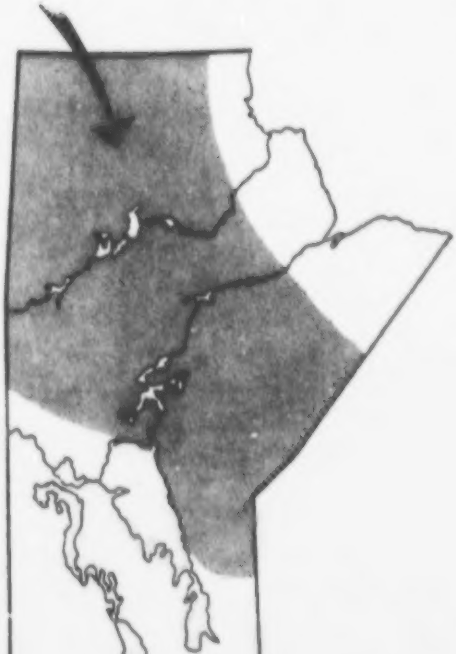


Cultural chronology for Southern Manitoba during the Middle Prehistoric Period, 4500 B.C. - 1 A.D. The Logan Creek Culture was a carry-over from the Early Prehistoric Period, and there is reason to believe that some technological or cultural mixing took place between late Paleo-Indian culture and that of another tradition or pattern familiar with the copper deposits of the Upper Great Lakes; the dotted segment of the Old Copper time line makes provision for that possibility. The "Extended McKean-Oxbow" and "Laurel" cultures are described in subsequent sections.

CENTRAL MANITOBA

THE SHIELD ARCHAIC CULTURE (2200 B.C. - 1 A.D.)

On the Canadian Shield to the northwest of Manitoba, a regional culture evolved from its Paleo-Indian predecessor. The "Shield Archaic Complex" characterized the Boreal Forest environment of Manitoba and adjacent provinces from around 2200 B.C. until the time of Christ, and has been found at widely separated places on the Shield. Like its counterparts on the Plains, the culture comprised a hunting and gathering economy, a stone-tool technology, nomadism, and the organization of its populations into small groups or bands. It differed from its Plains counterparts in several respects. For example, fishing was probably much



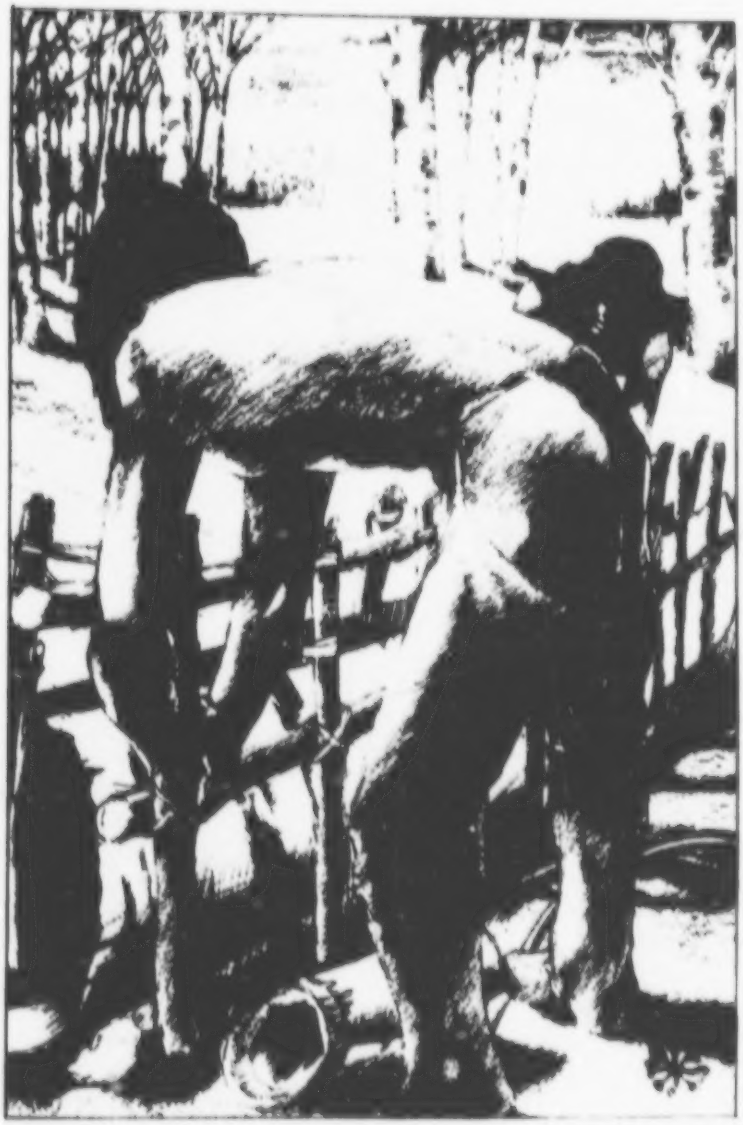
The known distribution of the Shield Archaic Complex in Manitoba, showing the direction whereby it was introduced into the province.

more important to the economy, and the species of game taken, particularly woodland caribou and moose, were those native to the Boreal Forest. One specialist on the subject argues that Shield Archaic people developed the toboggan, snowshoe, and bark canoe -- not because archaeological evidence of such things has actually been found, but because it is difficult to believe that full-time, year-round, residents of the Boreal Forest could have survived without them. Otherwise, the stone artifacts comprising such items as chipped stone weapon points, knives and scrapers were generally similar in form and function to those used by contemporary peoples on the Plains to the south.

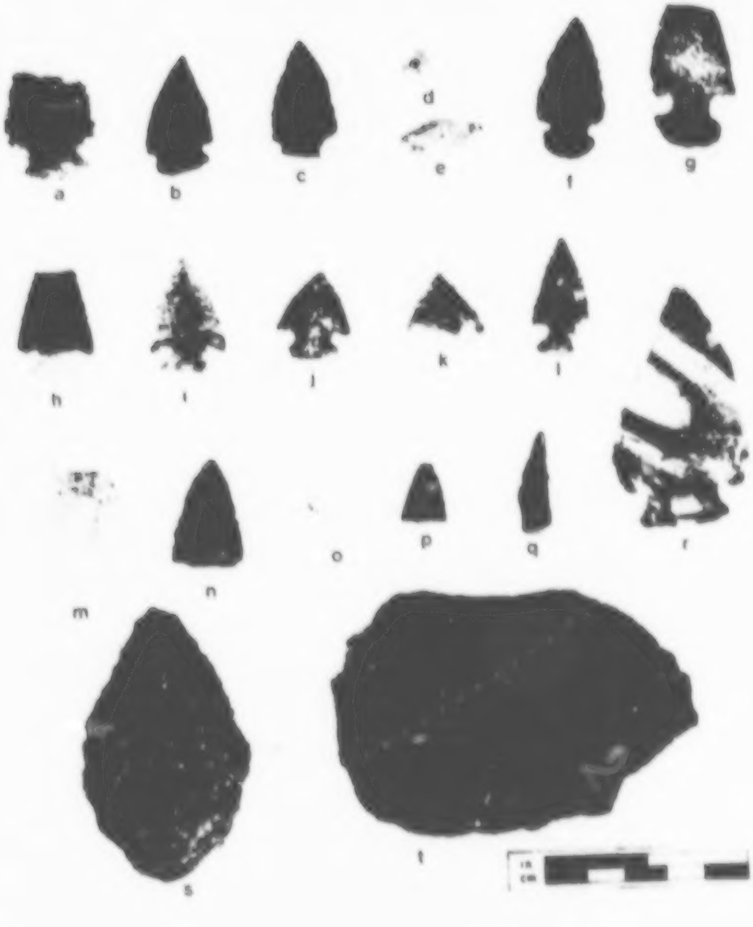
The very widespread distribution of the Shield Archaic Complex comes as no surprise when one considers the nature of the Boreal Forest environment. The vast network of inter-connecting waterways provided a natural system of "highways" across huge areas, and the destructive effects of forest fires caused the people to shift residence from time to time, thereby expanding the amount of territory visited or inhabited by Shield Archaic people. There is reason to believe that the Shield Archaic lifestyle was the first long-term adaptation to the northern Boreal Forest environment in Manitoba.

THE PELICAN LAKE CULTURE (1000 B.C. - 1 A.D.)

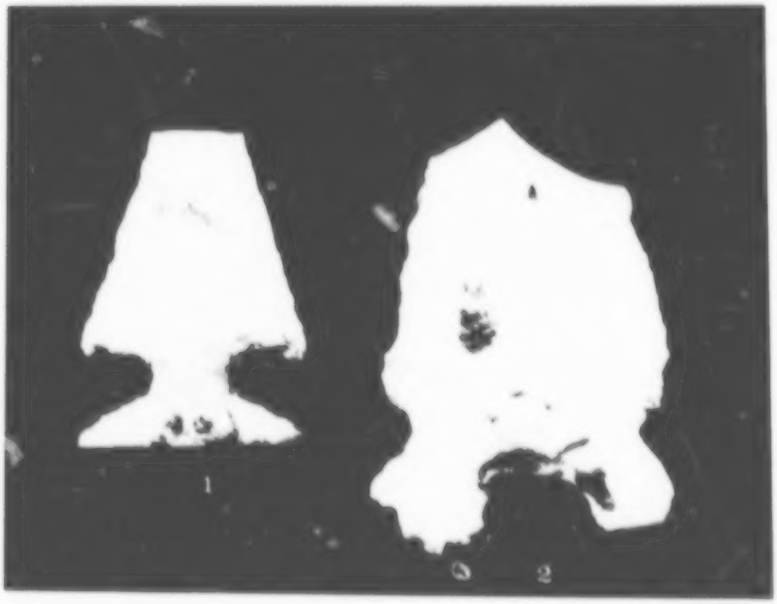
During the closing centuries of the Middle Prehistoric Period, there appears to have been some movement into Central Manitoba from the south. Pelican Lake projectile points, which are primarily associated with the Plains area, were recovered on Wuskwatim Lake northwest of Thompson and from the north end of Southern Indian Lake. These points appear in the Boreal Forest from Northwestern Ontario to the Central District of Keewatin.



It has been suggested, purely on logical grounds, that the birch bark canoe was an innovation of the Shield Archaic people.



Artifacts of the Middle Prehistoric Period from the northern extremity of Central Manitoba: a-g -- Shield Archaic projectile points; h-l -- Pelican Lake projectile points; m,n -- projectile point blades; o -- biface tip; p -- projectile point tip; q -- "Pre-Dorset" drill (see below); r -- unclassified projectile point or knife; s,t -- bifaces.



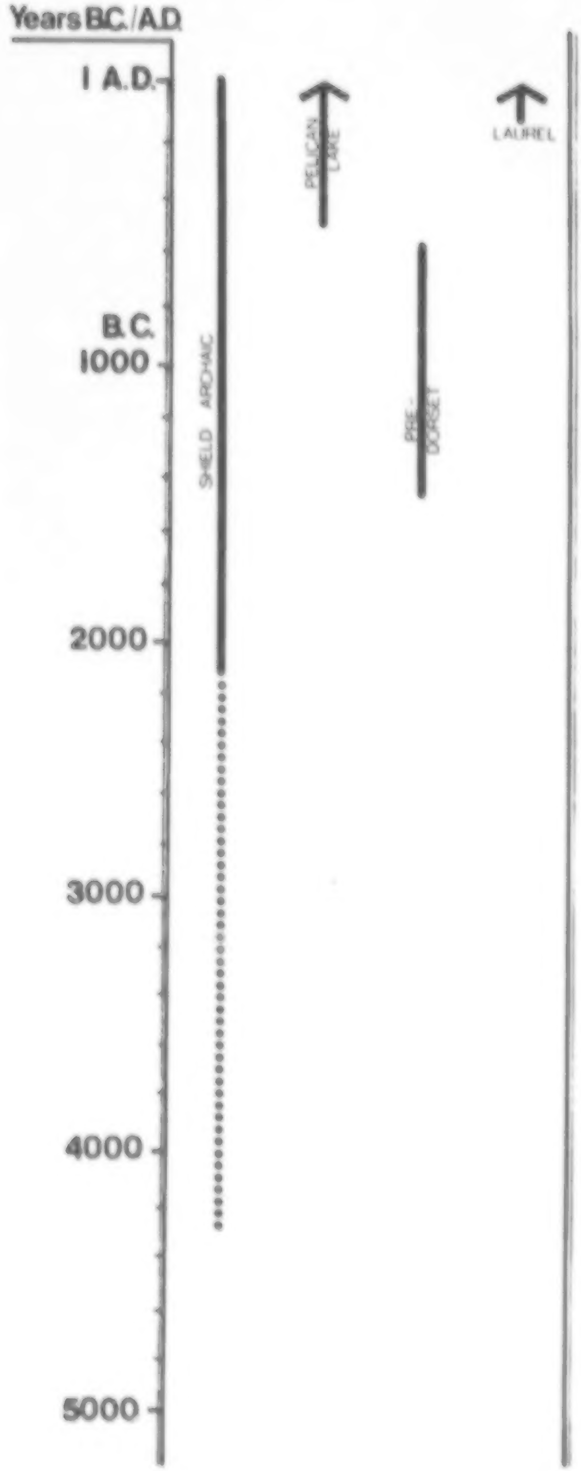
Artifacts from the Middle Prehistoric Period found at Wapisu Lake in Central Manitoba: 1, 3, 4 -- Pelican Lake points; 2 -- Oxbow point.

THE PRE-DORSET CULTURE (1500 - 500 B.C.)

After the retreat of the glacier from northern Manitoba around 6000 years B.C., the climate was warmer than at present and the treeline was north of its modern position. Between 1500 and 500 years B.C., the climat became cooler and more variable. The forest edge retreated southward, and the Shield Archaic hunters who occupied the District of Keewatin, Northwest Territories and northern Manitoba also shifted southward. At the same time, the people who occupied the Arctic coast moved inland. Their culture is known archaeologically as "Pre-Dorset" or "Arctic Small Tool" because of the preponderance of small, delicately chipped tools that they manufactured.

Pre-Dorset artifacts have been recovered from as far inland as Rock Lake, 32 kilometers north of Thompson, Southern Indian Lake, and Shamattawa in Manitoba; Black Lake and Lake Athabasca in Saskatchewan; and Great Slave Lake in the Northwest Territories. In Manitoba, these occupations are believed to date between 1500 and 500 B.C.. Therefore, there was potential for interaction between the Shield Archaic hunters and the Pre-Dorset people in Central Manitoba. At present, it is not known if the two exploited the same region at different or the same seasons of the year, or whether the former completely abandoned the territory for a time. More will be said about the Pre-Dorset occupation of Manitoba in the following section.

Cultural chronology for Central Manitoba during the Middle Prehistoric Period, 4300 B.C. - 1 A.D. Although the Shield Archaic Culture is believed to extend as far back in time as 4300 B.C. in the Northwest Territories, it may not have appeared in Manitoba until about 2200 B.C. A description of the Laurel Culture appears in a later section. ▶


Years B.C./A.D.
1 A.D.
B.C.
1000
2000
3000
4000
5000
SHIELD ARCHAIC
PELICAN LAKE
PRE-DORSET
LAUREL

NORTHERN MANITOBA

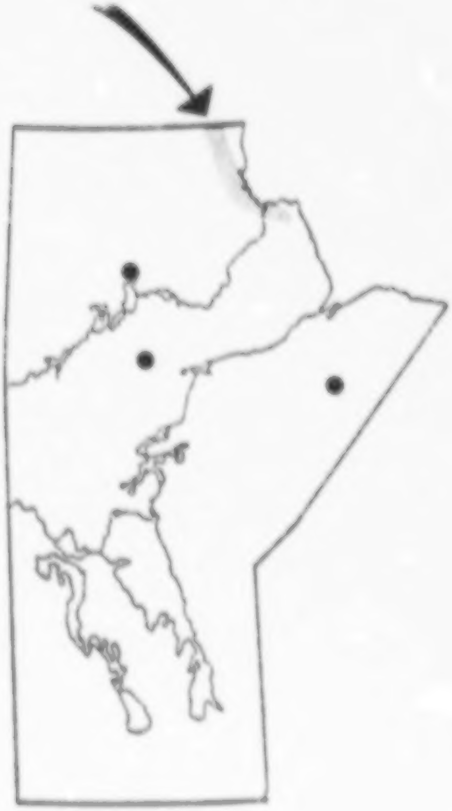
THE EARLY TALTHEILEI CULTURE (500 B.C. - 1 A.D.)

The prehistory of the Northern Transition, up until the advent of the Shield Archaic ca. 2200 B.C., is virtually unknown. From about 500 B.C. onwards, evidence exists for a long tradition of caribou-hunting and fishing. True to the basic pattern found among Middle Prehistoric peoples elsewhere in Manitoba, these were tent-dwelling nomads whose livelihood was based on the use of artifacts made from stone, bone, wood and leather. Their movements were largely conditioned by the yearly migratory habits of the barren ground caribou and, in the long run, shifts in the position of the northern tree line. Locations frequently visited included islands, points of land, hilltops and sandy ridges for such varied occupations as habitation, overnight camping, interception of migrating caribou, fishing and game-spotting. These people were the ancestors of the modern-day Athapascans. Since most of their culture history fell within the Late Prehistoric Period, we will consider them more fully in the following chapter.

THE PRE-DORSET CULTURE (1500 - 500 B.C.)

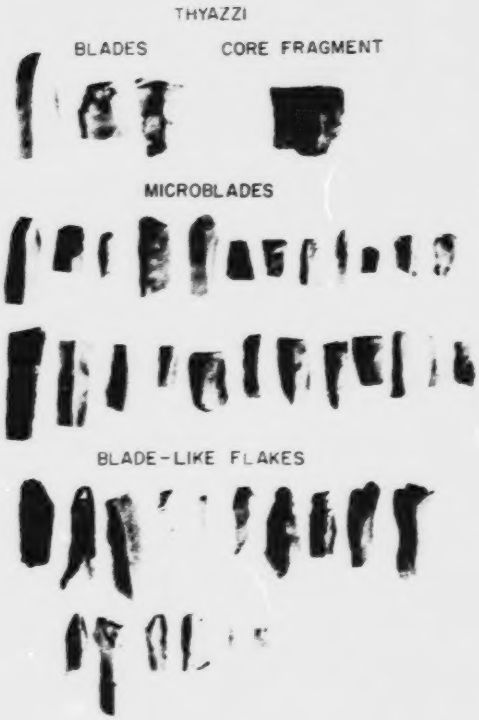
The oldest of the Pre-Dorset or Arctic Small Tool sites in Manitoba is Thyazzi, located on a sandy ridge near the North Knife River. The small, delicately chipped artifacts diagnostic of the Arctic Small Tool Tradition are found in exposed sand and gravel areas and in the soil and sod which occasionally reach four inches in thickness.

Surface collection and excavations yeilded numerous artifacts and, in several places, enough waste flakes to indicate workshop areas. No house remains were encountered, although one localized concentration of chipping



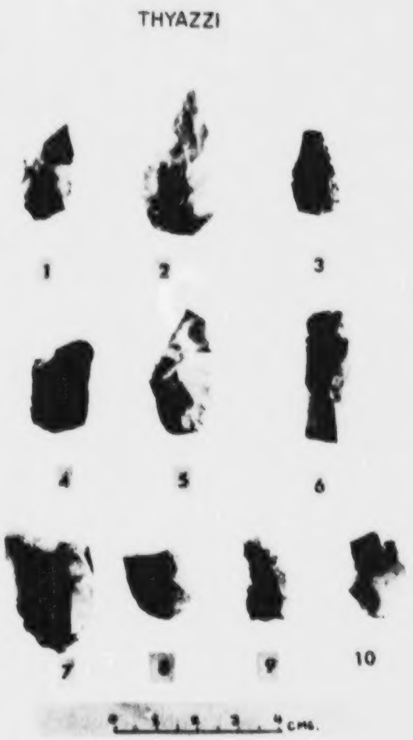
Known distribution of the Pre-Dorset or Arctic Small Tool Complex in Manitoba. The arrow indicates the presumed route of entry into the province.

detritus terminated so abruptly on one periphery as to suggest that it marked the edge of a dwelling or shelter. Such characteristic Arctic Small Tool types as the burin, side-blade and microblade occur at Thyazzi. The burin is a cutting and engraving tool characterized by a sharp working end. The tiny stone burin spalls struck off in forming this working end were themselves frequently chipped for use at one end. The side-blade may be rectangular or crescentic in outline and was used along one lateral edge. The smaller specimens may have been inset in bone or wood which was not preserved at Thyazzi. The rectangular chert slivers termed microblades were probably hafted and used in a variety of household and hunting tasks where sharp edges were required. Other types of artifacts recovered include stemmed and lanceolate arrowpoints, triangular points possibly used in harpoons, a variety of scrapers for working hides, as well as drills and knives.

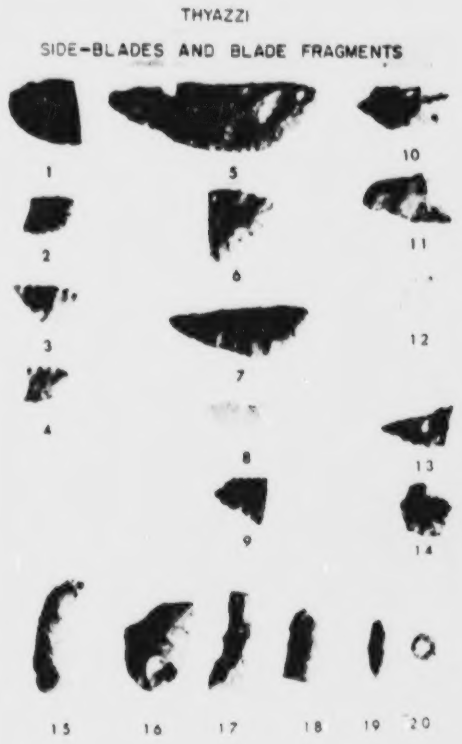


When the Thyazzi Site was occupied, it was probably close to the shore of Hudson Bay and not 24 km inland as it is today, for following the recession of glacial ice, the land around Hudson Bay began to rise so that campsites which were formerly on the shore of the Bay are now either high above sea level or considerably inland.

The Thyazzi Site was probably visited seasonally by small groups of people perhaps over one or two centuries, beginning about 1500 B.C. While these people may have done some seal hunting nearby, the predominance


THYAZZI
1
2
3
4
5
6
7
8
9
10
0 1 2 3 4 CMS.

Burins from the Thyazzi Site.


THYAZZI
SIDE-BLADES AND BLADE FRAGMENTS
1
2
3
4
5
6
7
8
9
10
11
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13
14
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16
17
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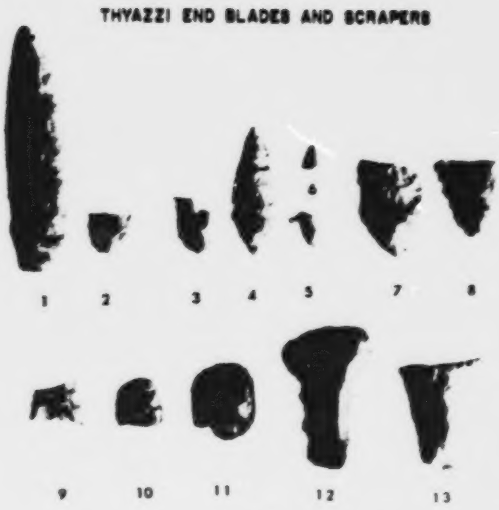
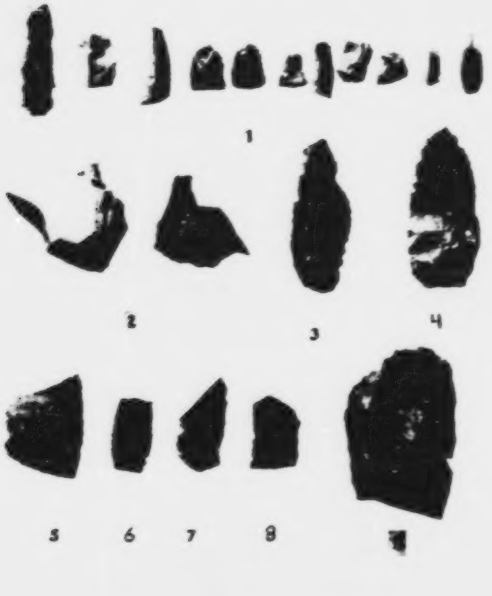
Side-blades and blade fragments (# 1 - 14), artifacts of dubious function (# 15 - 19), and a bead (#20) from the Thyazzi Site.


THYAZZI END BLADES AND SCRAPERS
1
2
3
4
5
6
7
8
9
10
11
12
13

Lanceolate (# 1, 2), stemmed (# 3 - 8), and triangular (# 9) end-blades; and end (# 10 - 14) and side (# 15 - 17) scrapers from the Thyazzi Site.

of points probably used on arrows suggests that caribou hunting was the main pursuit at Thyazzi as it was for the Chipewyan of recent times.

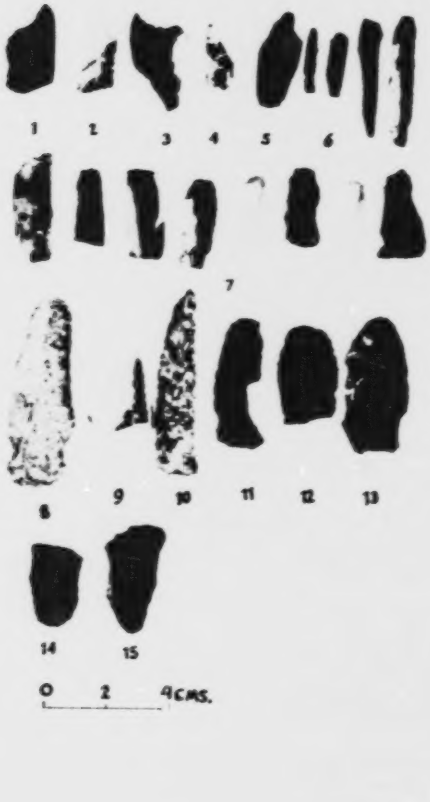
The Twin Lakes and Seahorse Gully Sites are more maritime-oriented sites, younger than Thyazzi and probably dating in the 500 B.C. to 1000 B.C. time period. The Twin Lakes Site is on a hill, 17.6 km



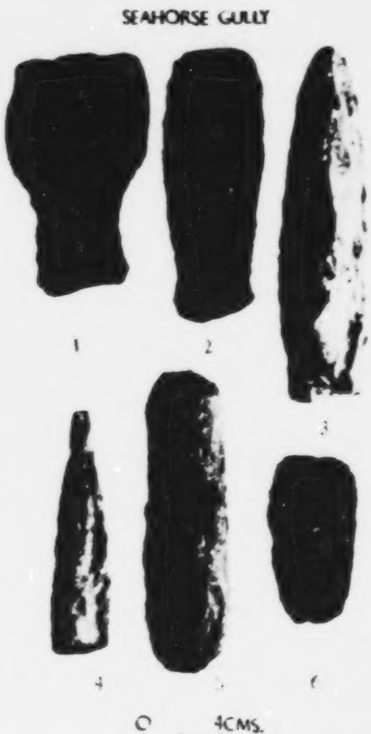
Microblades (# 1), core fragments (# 2), side scraper (# 3), small biface (# 4), chert knife (# 5), side-blades (# 6 - 8), (#9) adze from the Twin Lakes Site.

inland from Hudson Bay, but at the time the site was occupied, the hill was probably an island and an attractive spot for hunting sea mammals. The site is smaller than Thyazzi, but has the same kinds of tools -- microblades, knives, a triangular point, scrapers and especially burins, some of which were notched for hafting. The Twin Lakes people also used circular soapstone vessels and employed adzes, likely for woodworking.

The larger Seahorse Gully Pre-Dorset settlement spreads across the top of a high bedrock ridge on the west side of the Churchill River where it enters Hudson Bay. Most of the settlement is north of a great cut in the ridge called Seahorse Gully.



Burins (# 1 - 5), burin spalls (# 6), microblades and blade-like flakes (# 7), small bifaces (#8 - 13), and end scrapers (# 14, 15) from the Seahorse Gully Site.



Large tools from the Seahorse Gully Site.

The artifacts are most similar to those from Twin Lakes, but include additional types, a few of which are similar to later "Dorset" artifacts. Burins, scrapers, knives notched for hafting and rectangular side-blades are common, whereas microblades seem to have been little used. Several circular vessels of green and black steatite were recovered, as was a variety of points and two fragmentary harpoon heads. In addition to the small chert tools, a complex of large tools is characteristic of the Pre-Dorset component at Seahorse Gully. These tools are most often of a soft reddish stone and include gouges, adzes, picks, scrapers and knives, some of which may have been used in woodworking. The site is located at the tree line, and the large tool complex might have developed in response to the availability of wood. One large tool fragment was also found at Twin Lakes and further work may show this large tool complex as marking a regional variant of Pre-Dorset culture.

Two dozen Pre-Dorset house ruins were found at Seahorse Gully and eleven of the undisturbed ones were excavated. All that remains of the houses are surface boulder alignments which probably served to hold down the edges of a skin-covered house. These house outlines are usually circular or square, but a few are elliptical or irregular in shape. The squarish houses were about 4.5 or 4.8 m on a side and the circular houses 4.5 or 4.8 metres in diameter.

The ridge north of Seahorse Gully was probably an island when it was occupied by the Pre-Dorset people. The maritime setting, the harpoons and the faunal material from the site all testify to the importance of sea mammal hunting, while the arrow points and a possible stone netsinker suggest that probably such animals as caribou and fish were also taken.

The Arctic Small Tool Tradition seems to have been a basal stratum of Inuit culture which developed in the Bering Strait area about 3000 B.C. or earlier. Present evidence suggests that the Arctic Small Tool people gradually moved out of Alaska and became thinly dispersed throughout the treeless area of the central and eastern Arctic. By about 1500 B.C., some of these people had moved as far south as northeastern Manitoba and locations such as Thyazzi. The racial and linguistic affiliations of the Arctic Small Tool people are unknown, although there is reason to believe that they are Inuit. Culturally, these people are Inuit and, like many later Inuit groups, the Arctic Small Tool people usually based their subsistence on both land and sea mammals, particularly caribou and seal.

The taking of seals with harpoons, as practised by the historic Inuit (above), can be traced back to Pre-Dorset times in Northern Manitoba.

THE DORSET CULTURE (900 B.C. - 1 A.D.)

The Dorset Culture represents a continued adaptation of the Pre-Dorset peoples to the Arctic. Despite a cooling trend in the climate, their general success can be identified by larger and more numerous settlements, deeper middens (larger refuse heaps), and the development of intricate carvings, particularly of religious symbols.

The Dorset Culture persisted for almost 2000 years and disappeared with the appearance of Thule peoples (Inuit ancestors) from Alaska. Were the Dorset people killed off? Did they intermarry with the new migrants? Were they the "Tunits", the friendly giants of Inuit folklore? The answer is probably "yes", to some degree, to all of these questions.

The subsistence cycle of the Dorset people appears to be similar to that of groups living on the coast during the historic period. During the spring and early summer they settled on the coast and concentrated on marine resources. Seals, walruses and small whales were hunted. Larger, beached whales were also scavenged. Shoreline hunting was probably augmented by the use of kayaks; some carvings from this period appear to be kayaks.

In the late summer, the people moved to the fishing stations and caribou crossings. A rich diet of char and caribou was enjoyed and stored. The caribou also provided hides for clothing and coverings for structures. The people lived in skin tents with rectangular bases that were easily portable.

Autumn was spent in communities along the coast. Groups lived in semi-subterranean houses which held two to four small families. Skins were prepared and made into clothes. The community prepared for winter and small groups of hunters brought in additional food.

With the advent of winter, groups moved onto the ice and lived in the igloo (the domed snow house). Hunters invented a number of items to help them master life on the ice. Here they would have relied primarily upon hunting seals which required tremendous patience as they waited for their prey to come to breathing holes.

The inventive genius of these Arctic peoples continued to express itself during the Dorset period. They invented ivory sled shoes so that the sled runners would last longer, and ice-creepers (attachments for their mukluks). The first evidence of flat bone tools used as snow knives to cut snow blocks for manufacturing igloos appeared at this time.

Contrary to popular belief, the snow block igloo was not the only form of structure of the Inuit. At least three forms, occupied during different seasons of the year, were used by the historic Inuit peoples and there is evidence that these forms date back as far as Dorset times.

The sod and stone, semi-subterranean winter house was constructed by clearing a shallow rectangular depression to a depth of 10-12 cm (4-5 inches). Much of the floor area was paved with flat stones. These houses were about 3 by 4 meters (10 x 13 ft.). The cooking and working area was in the centre, where one or two hearths had small upright blocks to hold cooking items. Sleeping platforms were located on two sides of the hearth area. Walls sometimes were built with a few layers of stone, above which were layers of sod and snow blocks (in the colder seasons). Driftwood was used for roof support and it was covered with skins.

The summer tent tended to be rectangular at the base, and the central area was sometimes paved with flagstone. One or two hearths were present. A skin frame covered a frame of branches.

The igloo was made from tapered blocks of carefully packed snow to produce a dome-shaped structure. The heat from the blubber lamps would seal the inside. Although no direct evidence of these survives, snow knives used in their construction first appear at this time.

Religion permeated all aspects of everyday life. People saw themselves as being in a delicate spiritual balance with life. Humans shared with all living things souls that had to be in harmony and had to be treated with respect. All living forms contained a spiritual essence.

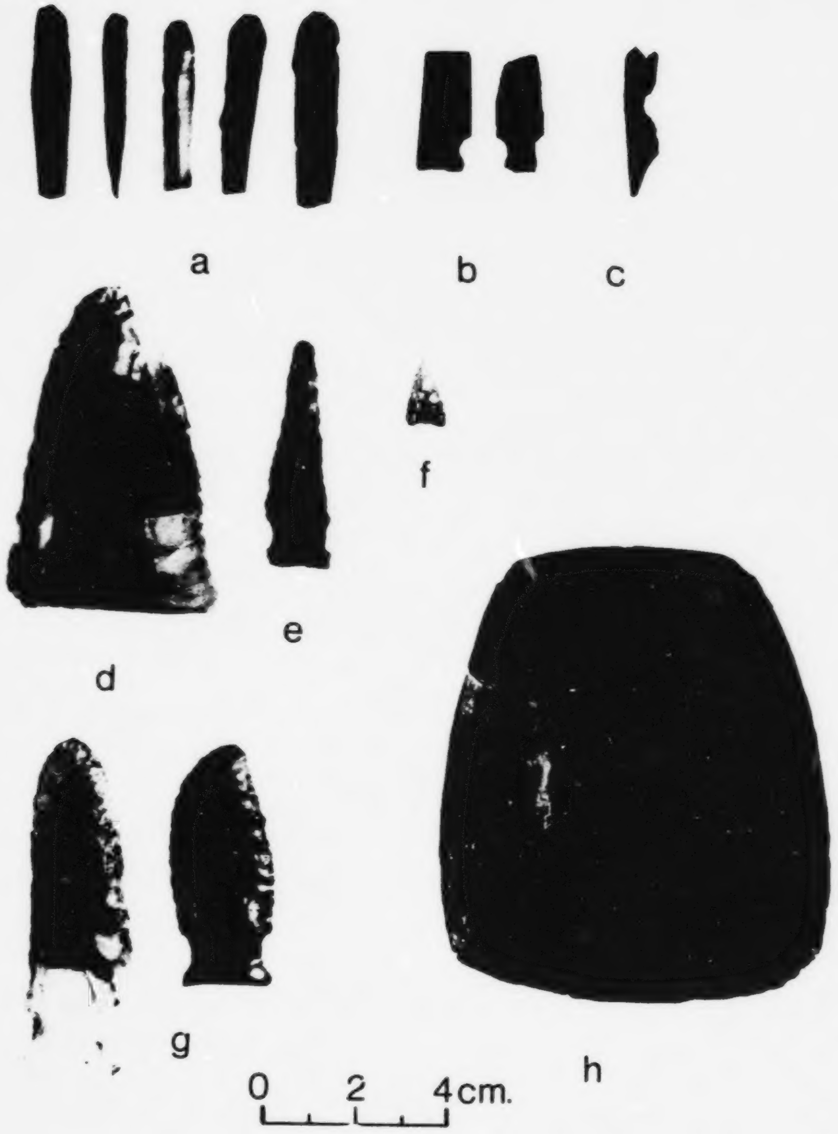
Because religion was so important, shamans or religious specialists were present in all groups. These individuals were believed to have unusual skills and insights into understanding the spiritual world and in returning spiritual harmony when things went wrong. They were religious leaders, teachers, doctors and psychologists all in one.

The Inuit and their ancestors developed numerous rituals to prevent spiritual disharmony -- such as never mixing meat from terrestrial and marine forms when preparing meals. They also developed magical activities (acts and rituals which should bring automatic success because of their appeal to animal spirits). One form was to carve realistic or abstract forms of an animal, such as the polar bear, whose spirit one wanted to appease. By carving the polar bear, the shaman could address and influence the spirits or souls of the polar bears.

Among the religious paraphernalia were wooden masks and items such as sets of carved animal teeth made to fit in a performer's mouth; these helped the shaman transfer from the state of an ordinary mortal to that of spiritual medium with supernatural powers. Bone tubes were made to suck out illness during curing ceremonies. Small figurines of animals and humans were made to practise powerful magic, and include realistic, stylized, and grotesque caricatures. Often, these figurines were incised with patterns representing the skeletal form as if viewed from an X-ray perspective. Finally, pendants of ivory or wood were made for decoration or as religious talismans. Many of these carvings were made in small but very detailed form. They are symbols of a profound concern for seeking religious solutions to everyday problems, and are expressions of a creative genius in producing art masterpieces.

The only known Dorset settlement in Manitoba occurs on the ridge north of Seahorse Gully and about three-quarters of a mile west of the Pre-Dorset settlement. The settlement consists of five probable houses 18 to 21 m above Hudson Bay.

The houses are unlike the nearby Pre-Dorset houses and are not as well defined. They are surface features constructed of stone slabs and are of two types. In the first type, the stone slabs are arranged to form one or more flagstone pavements which appear to have been the focus of indoor activities. The peripheries of such houses are poorly or indirectly defined, although a square or rectangular outline is probable. The largest of the four houses of this type probably measured about 6.6 m by 7.2 m and

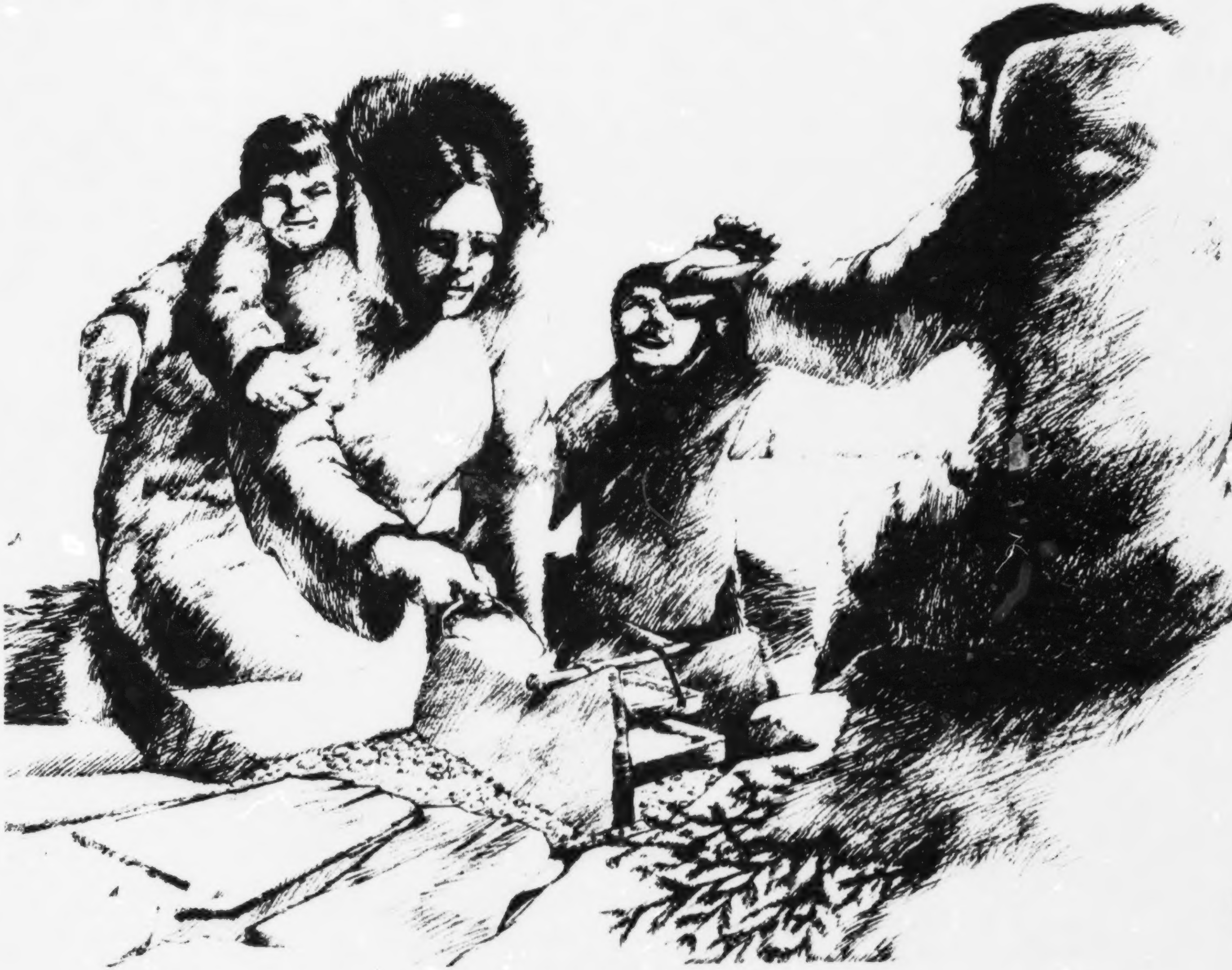


Dorset artifacts from Northern Manitoba: a -- microblades; b -- burin-like tools; c -- small harpoon head; d -- large biface blade; e -- notched point; f -- triangular point; g -- notched knife blades; h -- steatite cooking vessel or lamp.

may well have been occupied by more than one family. These houses are probably summer houses. The second type of house has a well-defined squarish periphery and is bisected by a narrow central passage. The five houses were probably occupied about the same time. A date of 130 B.C. ± 95 years from one of the houses is compatible with the styles of the artifacts and seems to accurately date the settlement.

The artifacts found in and around these houses are Dorset types and include: long, thin microblades, burin-like tools, a very small harpoon head, a notched point and a triangular point, notched knife blades, a few larger biface blades, and large, rectangular steatite vessels used for cooking or as lamps. None of the slate artifacts frequently found in Dorset sites were encountered. The small, delicate carvings characteristic of Dorset art were not found at Seahorse Gully but this same precision and delicacy are manifested in the utilitarian objects.

The faunal materials indicate that while these Dorset people were camped at Seahorse Gully, seals formed the bulk of their diet, although various carnivores and such birds as eider, duck and the Arctic Tern were also hunted.



A Dorset family.

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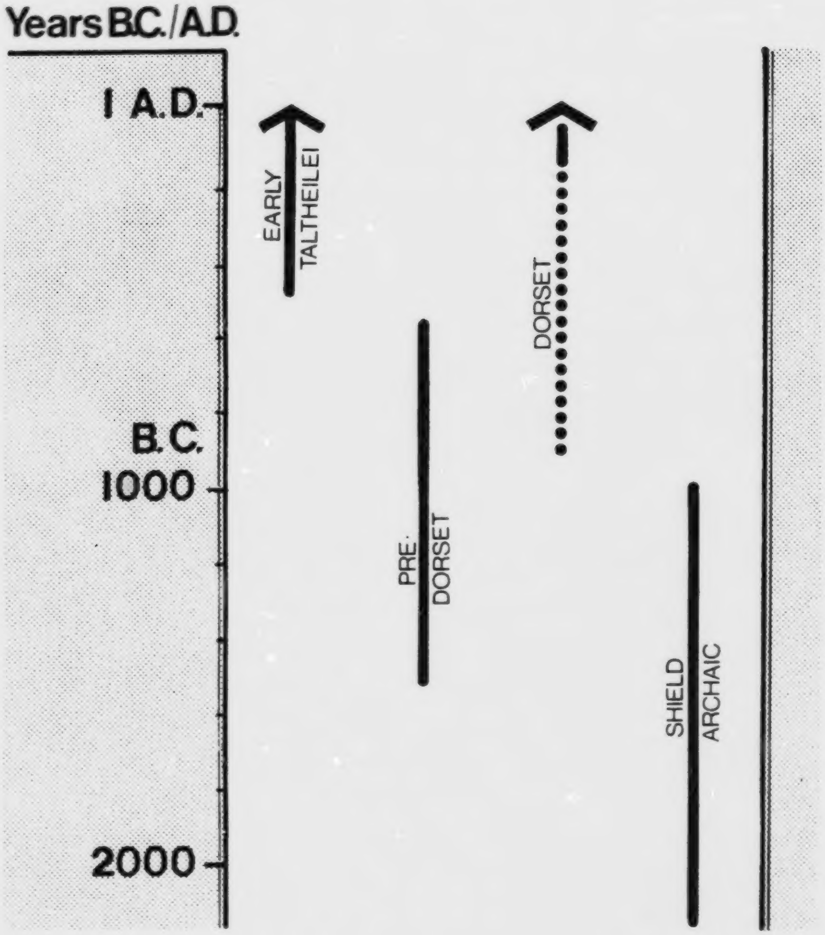

Cultural chronology for Northern Manitoba during the Middle Prehistoric Period, 2200 B.C. - 1 A.D. Evidence of the Dorset Culture is limited to a single site in Manitoba, although it is known to have endured for some 2000 years in the Canadian Arctic.

LATE PREHISTORIC PERIOD

SOUTHERN MANITOBA

AN OVERVIEW

In many respects, the Late Prehistoric Period represents the province's "Golden Age" of human prehistory, at least in Southern Manitoba. It was ushered in with the appearance of a number of major technological innovations, notably pottery-making, the bow and arrow and, in the Grasslands and Aspen Parklands, the use of corrals, or "pounds" into which bison were driven and slaughtered. Another important characteristic of Late Prehistoric culture in Southern Manitoba was the practice of burying the deceased beneath earthen mounds. One major fact that has been recently demonstrated is that the region was visited and/or inhabited by many different groups of people who were attracted to the area by the bison, which entered the Aspen Parklands in large numbers during the winter. No doubt other groups immigrated on account of social and political upheavals elsewhere, while marriages between local people and those of surrounding areas also contributed to the cultural diversity that has come to be recognized in many Late Prehistoric sites in Southern Manitoba. Trade became very important to the peoples of the Grasslands region. As was the case with the many generations before them, the Late Prehistoric people hunted and fished for a living, and supplemented their diet with edible plants. In southeastern Manitoba, the most important of these was wild rice, which was harvested by paddling a canoe into the rice fields, bending the stalks of grain over the gunwhales and beating them with flails. In this way, the canoe acted as a large recepticle or container for the rice.

The population of Southern Manitoba was larger than ever before, but nomadism was still the order of the day, as were the basic chipped stone, bone, and wood technologies that were typical of the region from earliest times. To date, several major complexes, all belonging to the "Woodland Pattern", have been discovered, these being "Besant", "Sonota", "Avonlea", "Laurel", "Blackduck", and "Mistikwas".

THE BESANT CULTURE (1 A.D. - 800 A.D.)

The Besant Phase lasted from 1 A.D. to 800 A.D. The Besant people were communal bison hunters who made use of traps and pounds to kill bison. Hunting fowl, fishing and collecting shellfish also provided the Besant people with food. Tipi rings have been found in both summer and winter camps in Besant sites in Alberta, and this is probably the type of living structure utilized by the Besant in southwestern Manitoba. The atlatl was still used to kill bison; however, the bow and arrow came into use during the Besant Phase. "Nomadic bands were probably the rule as far as social organization was concerned, with seasonal multiband groupings for communal bison hunts."*

THE SONOTA CULTURE (250 - 800 A.D.)

Dates of 1 to 600 A.D. are recorded for the Sonota Complex along the Missouri River in South Dakota, and from 250 A.D. to 800 A.D. on the Canadian Plains. Bison hunting was the main form of subsistence and stampeding the herds over river banks or herding them into natural corrals were the main ways of capturing them. The atlatl was used primarily by

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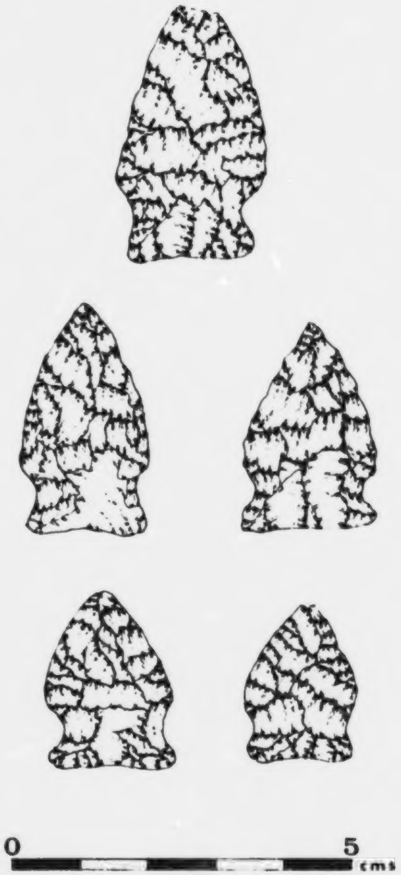
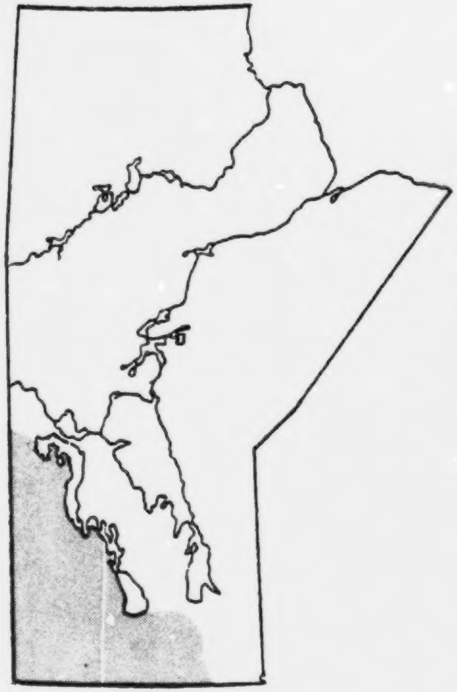
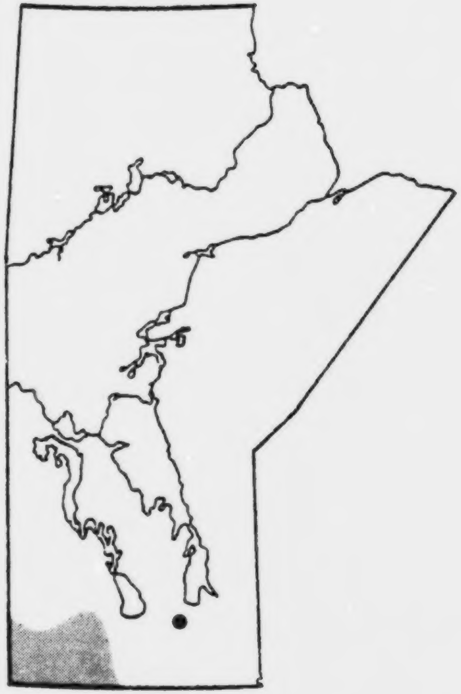
* Joyes (1970:214).



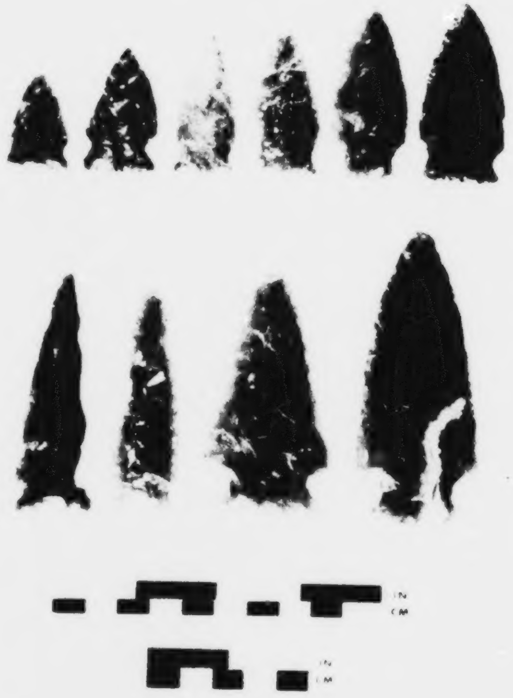
Besant points from the Swan
River Valley, Manitoba



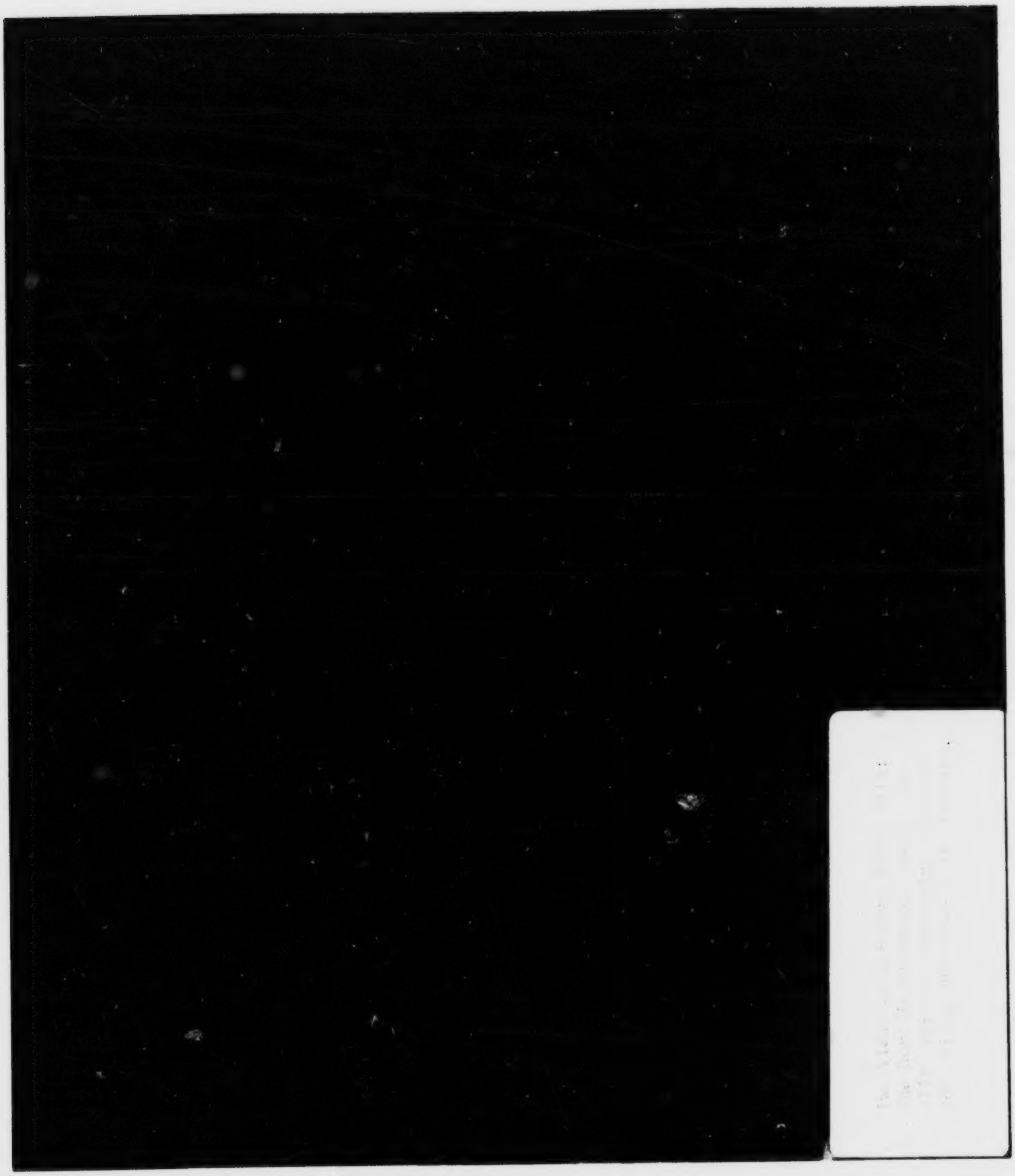
Known distribution of the Besant
Complex in Manitoba.

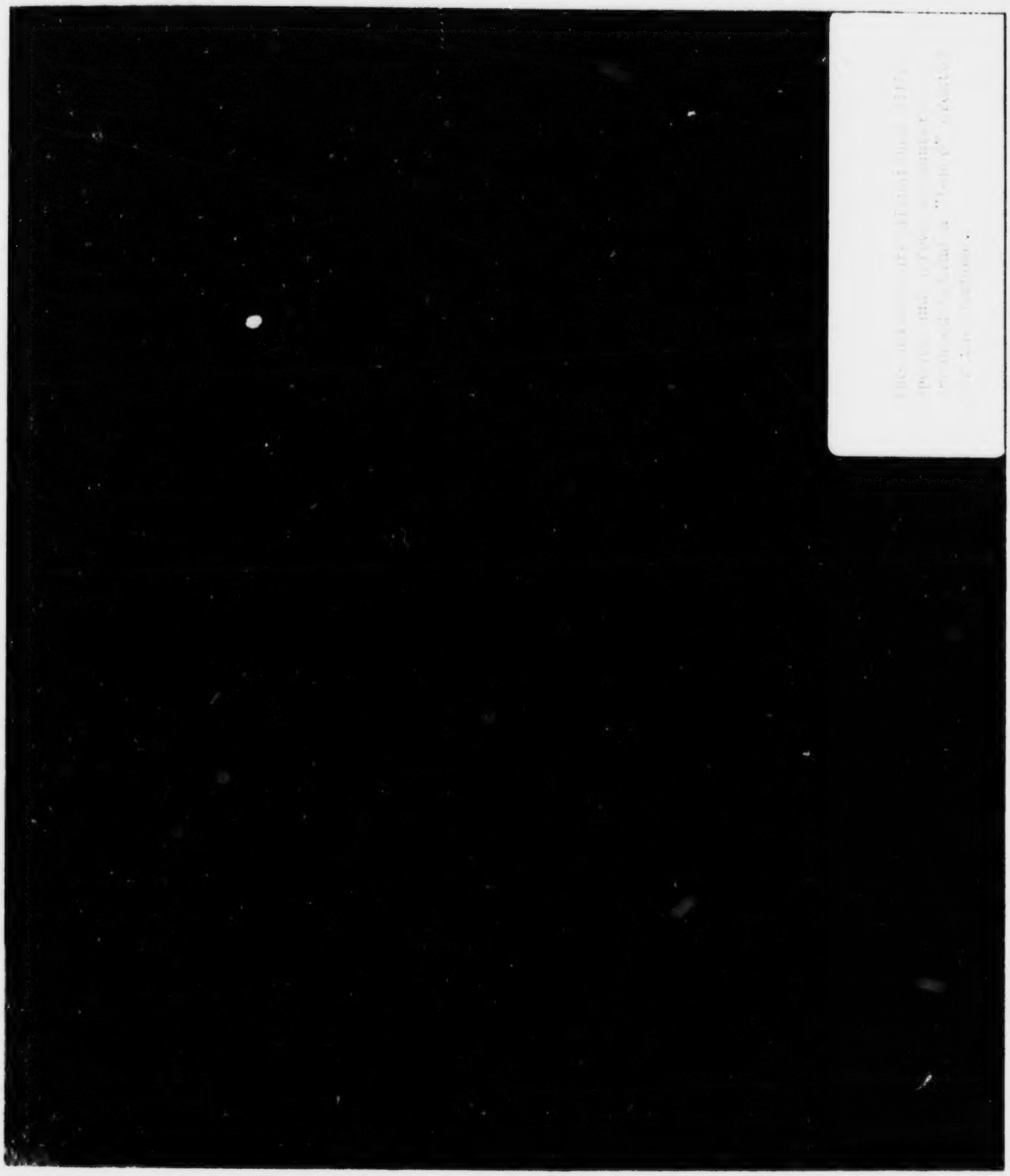


Known distribution of the Sonota
Complex in Manitoba.



Sonota points from the Richards Kill
Site near Killarney, Manitoba.





The [illegible] site (Deposition III)
opened and proved a [illegible]
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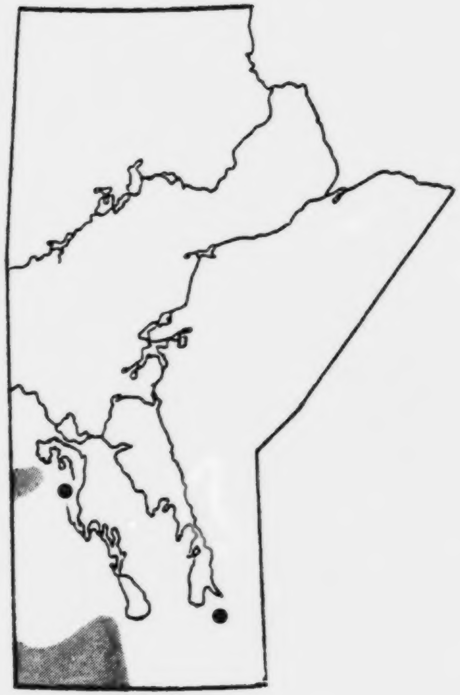
by the workmen.

the Sonotan hunters. There is evidence of a trade network between the Sonota and other groups in the appearance of such exotic items as Wyoming obsidian and Minnesota pipestone in South Dakota Sonota sites. The Sonota migrated seasonally and included western North Dakota in their round of movement. This is known from the fact that the majority of tools and waste flakes from Sonota sites are made from Knife River Flint. Pottery was a relatively recent introduction into the Sonota Complex and ceramic remains are not abundant. The lack of shelter evidence in general indicates that a temporary tent-like shelter was used. Sonota cultural developments are closely linked to Besant on the Northern Great Plains. The temporal overlap between these two groups may indicate a certain degree of interaction. The relatively elaborate burial mounds of the Sonota Complex may indicate "Hopewellian" influences from the East. The Hopewell Complex represented a series of chiefdoms along the main river systems south of the Great Lakes. Mud-flat agriculture along the rivers was the base for the subsistence of these people. Intensive collection of natural foods was also practiced. The Hopewell Complex is characterized by huge burial mounds, elaborate earthworks, large villages, extensive trade networks, and status differentiation of the people. The effects of this complex, which was centred along the Illinois River, were far-reaching.

THE AVONLEA CULTURE (400 - 700 A.D.)

The Avonlea Phase has been dated from 250 A.D. to 700 A.D. at the Gull Lake Site in southwestern Saskatchewan. Estimates of 400 A.D. to 700 A.D. for the Northern Plains and of 400 A.D. to 600 A.D. for the



Known distribution of the
Avonlea Complex in Manitoba.

Avonlea points from the Boissevain
district of southwestern Manitoba.

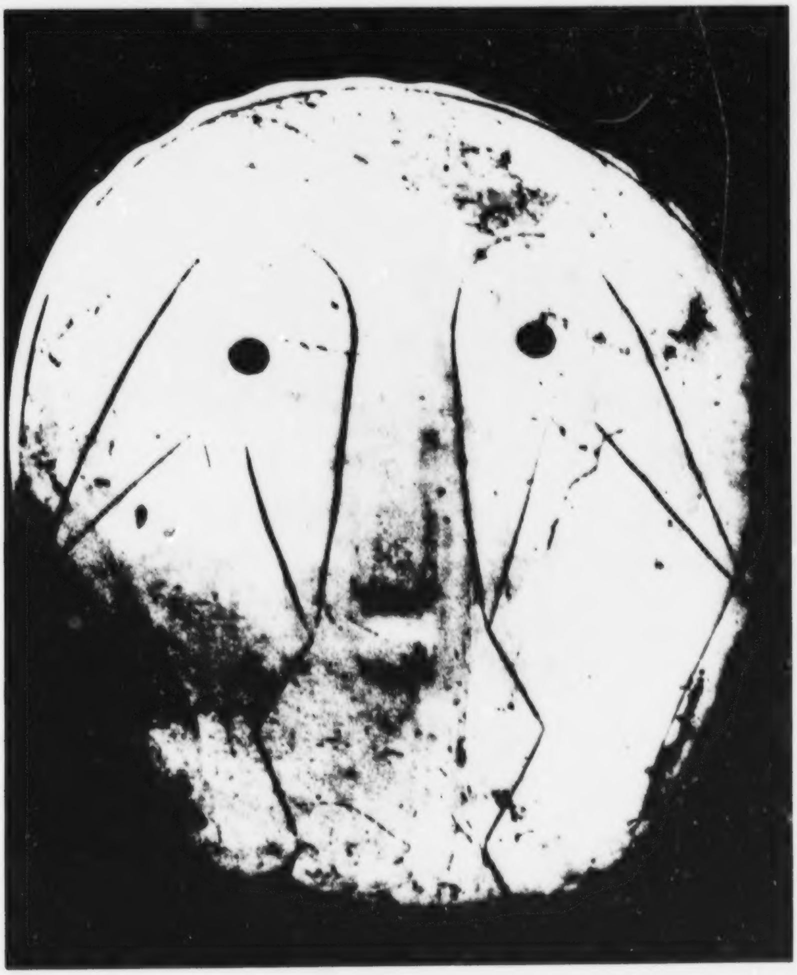
Avonlea component at Rock Lake in Southern Manitoba fall within these dates. The Avonlea people were communal bison hunters and made use of pounds and jumps. The thinness and sharp, finely worked nature of Avonlea points are factors which make them the most efficient for killing bison at close quarters in a pound. The bow and arrow was used to kill bison by the Avonlea people and pottery was present in part of the Avonlea component at Long Creek. There is some uncertainty about the type of pottery associated with Avonlea. Habitation structures are unknown, but skin-covered tipi-like dwellings were probably used. The small temporary nature of the campsites of the Avonlea people indicate the presence of small nomadic bands with seasonal multiband gatherings for the purpose of bison hunting.

About A.D. 800, there was a dramatic change in the cultural history of Manitoba. These changes can only be appreciated in light of developments that took place elsewhere. Beginning about A.D. 800, large agricultural settlements developed along the broad valleys of the Mississippi River, and by A.D. 1100 had produced large urban centres such as Cahokia (in present-day East St. Louis, Illinois) based on intensive cultivation of corn. Village tribes moved up the Missouri River into North Dakota in response to both a warmer climate and the introduction of corn horticulture; there was tremendous population growth and further development of continent-wide trade systems.

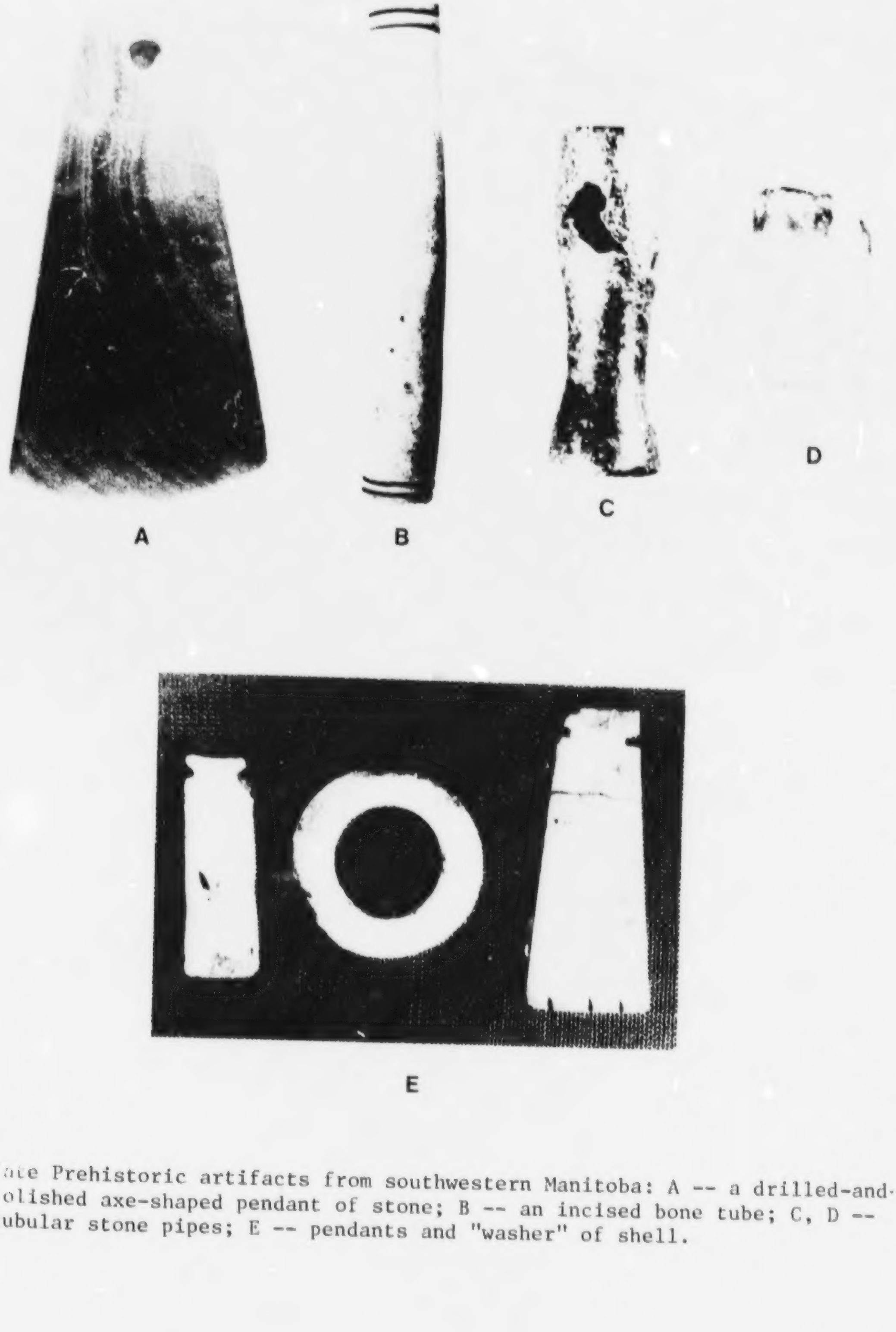
Village settlements along the Missouri River provided stable centres for trade networks, and the impetus for nomadic hunters from the

Plains and Boreal Forest to trade meat and skins for corn, beans and squash. As these relationships developed, the woodland groups became more plains-oriented and spent more time in southern Manitoba to be nearer the trade centres.

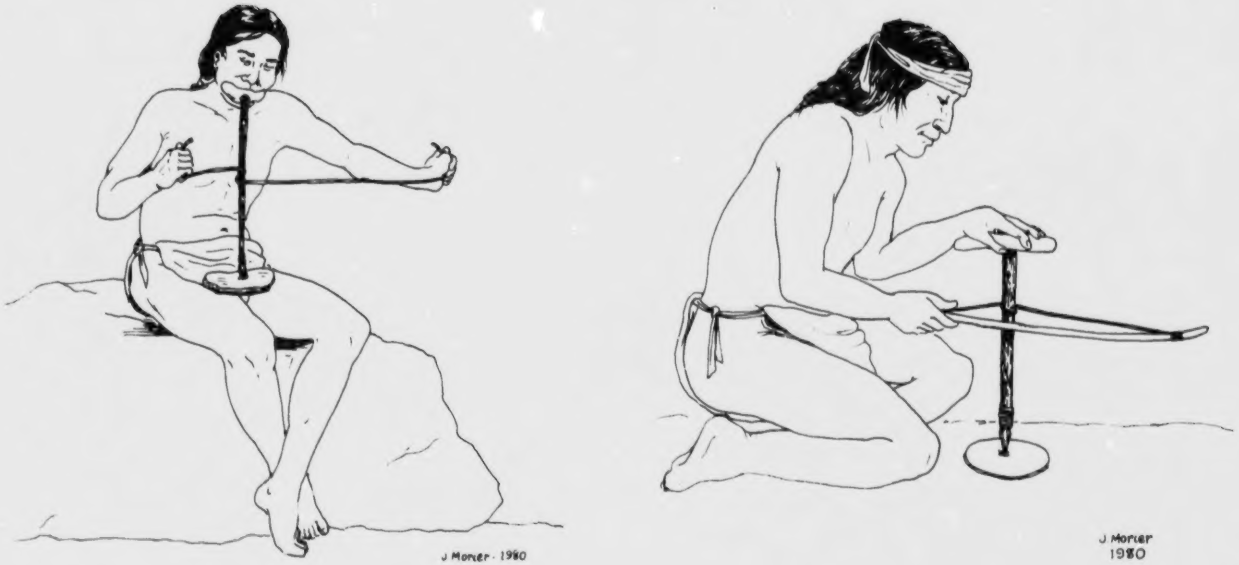
On the Plains, the period from A.D. 800 to historic contact is represented by numerous groups who occupied Southern Manitoba or who entered Southern Manitoba either to take part in seasonal hunts of the migrating bison herds or to trade. Their presence is indicated by a wide variety of pottery wares. During the period A.D. 900 to 1400, a Plains group made distinctive cup-sized mortuary pottery vessels which were smooth, incised with lines that spiralled or formed sacred images of thunderbirds (spirit of thunder, lightning and storms), bison, turtles, and broken arrows. These people were involved in part of a continent-wide trade network which enabled them to receive gulf coast shells from Florida to make masks, gorgets, and beads, copper from Lake Superior, volcanic glass ("obsidian") from Wyoming, "catlinite" (pipestone) from southern Minnesota, and dentalium shell from the west coast near Vancouver Island. Other ceramics had thick shoulders and impressions of fabric moulds using double-strand open-weft techniques; smooth, globular vessels with S-shaped rims and incising or finger-nail impressions have also been found. Some pottery sherds found in southern Manitoba have the characteristics of vessels from southern Minnesota: S-rims and twisted-cord impressions in imitation of the pottery made by the sedentary, horticultural, village-dwelling ancestors of the Mandan and Hidatsa Indians living along the Missouri River of North Dakota.



A shell gorget found in southwestern Manitoba. The artistic motif on the artifact, and no doubt this particu-object itself, originated in the highly advanced "Temple Mound Culture" of the lower Mississippi River Valley of the United States. The material from which this object was made came from a species of shellfish that is native to the Gulf of Mexico. The occurrence of artifacts of this nature in Southern Manitoba indicates the far-flung connections the people of this region had with other parts of the continent.



Late Prehistoric artifacts from southwestern Manitoba: A -- a drilled-and-polished axe-shaped pendant of stone; B -- an incised bone tube; C, D -- tubular stone pipes; E -- pendants and "washer" of shell.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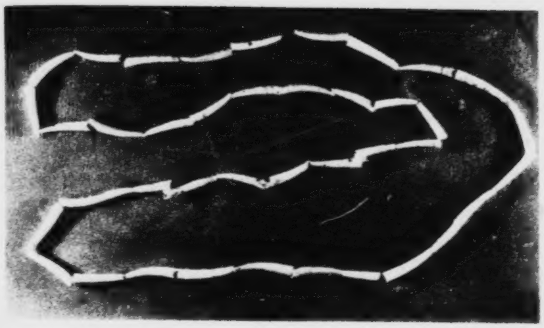
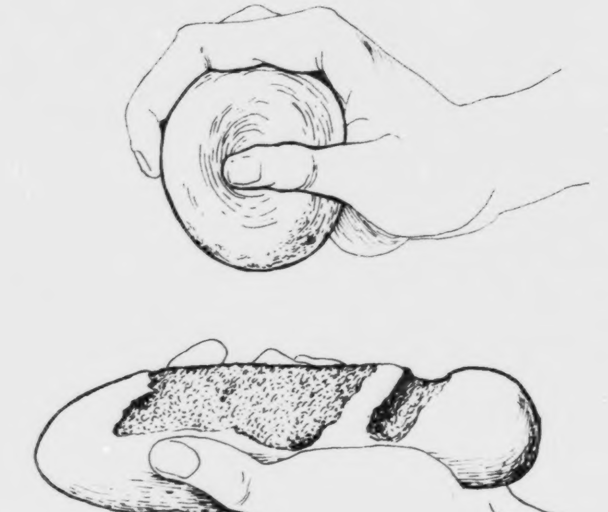
The stone and shell objects depicted on the previous page indicate the existence of a drill technology in Late Prehistoric times. Perhaps the above techniques were used.



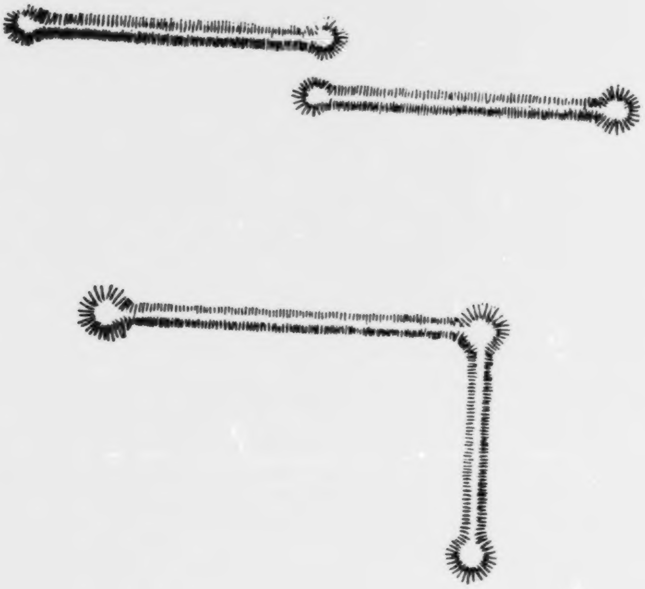
A reconstructed necklace of dentalium shell from Southern Manitoba. This shell is native to the coast of British Columbia, and its occurrence in archaeological sites in our province bears witness to the widespread contacts that local people had with other parts of the continent (see map on p. 119).

A very common artifact of the Late Prehistoric Period is the grooved maul, or hammerstone. These were produced by pecking a trough partially or completely around a cobble, probably after the fashion shown to the right. A less common artifact, the polished axe, was created by an initial pecking process that removed much of the unnecessary mass of stone, followed by rubbing with an abrasive to produce the final result.

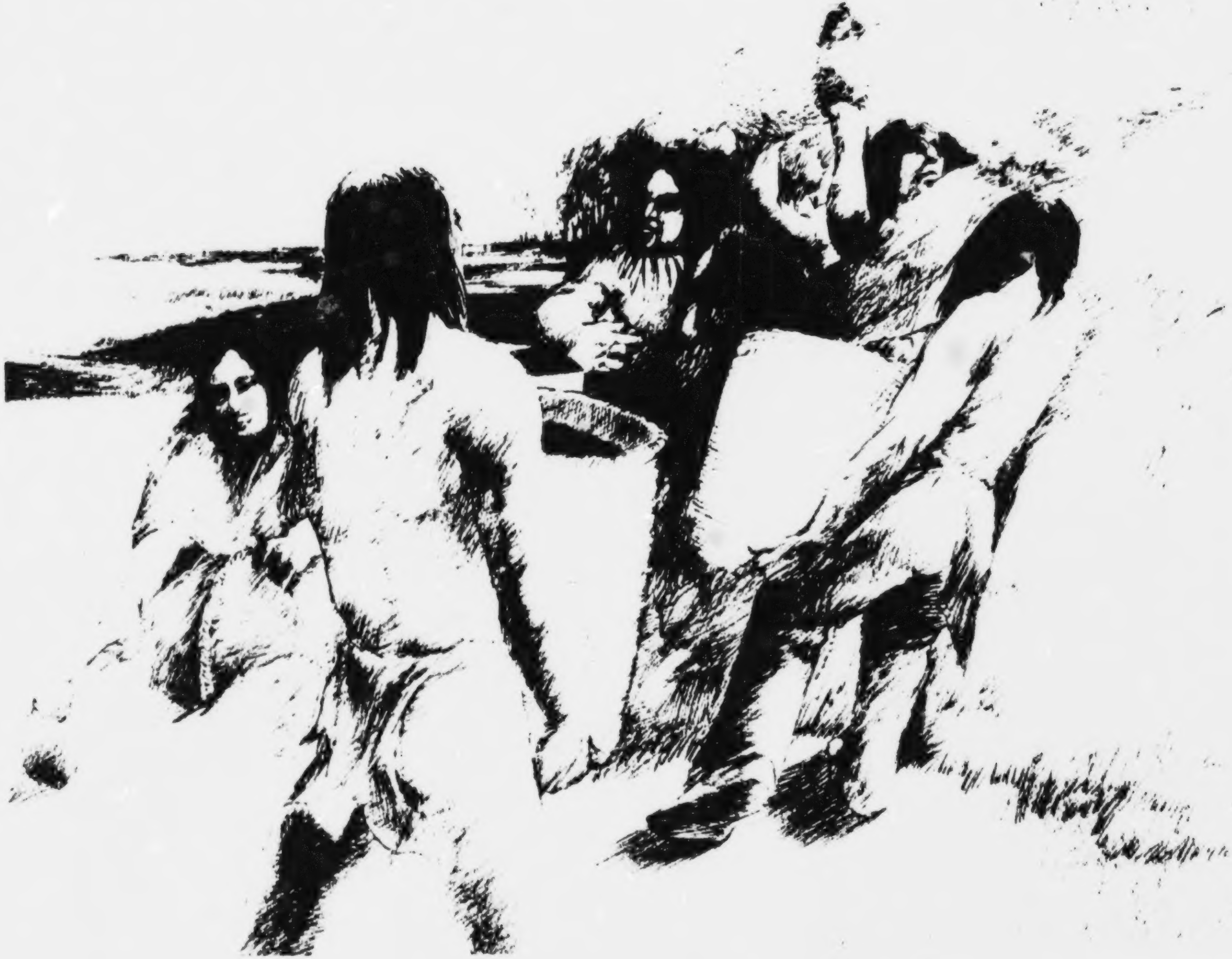


A Late Prehistoric cultural phenomenon worthy of special note is what is known as the "linear mound". These long, low ridges resembling railway grades were not themselves intended to function as mortuary tumuli, which was the case for the dome-shaped mounds that were erected at the ends of these features. We lack good measurements on the orientations of the linear mounds, but most of them are oriented in a northwest-southeast direction. For example, the direction of two such mounds are 35 degrees east of south and 30 degrees east of south, respectively. A few other mounds follow the cardinal points of the compass (which of course these people did not possess) and/or incorporate a right angle in their layout.

In recent years, discoveries in the emerging field of astro-archaeology have demonstrated just how sophisticated so-called "primitive" peoples were in their astronomical knowledge. Does not the absence of burials and the regular orientation of these features suggest that their design was not wholly ritualistic, but also astronomical in intent? Were there lay astronomer-architects among these people? There is some evidence in support of this idea, but it is not overwhelming. The orientation of 30-35 degrees east of south does not correlate with the rising and setting of the sun, moon or any of the planets, but experiments in the planetarium of the Manitoba Museum of Man and Nature with settings of 1000 A.D. and 1500 A.D. show a constellation and two stars to be of significance, particularly at the latter date. The constellation is Sagittarius the Archer, which would be rising at sunset in July, and the stars involved are Pollux (visual magnitude 1.16) and Beta Tauri (visual magnitude 1.65), bright stars but not of known mythological importance. At about 1054 A.D., the Crab Nebula Supernova appeared in that part of the sky under examination. This was an event familiar to Chinese astronomers of the time, but we do not know whether this star, or the other two stars of Sagittarius, were of importance to the peoples of southwestern Manitoba, or whether their correlation with the linear mounds were completely unrelated occurrences. These relationships, however obscure in meaning, are quite likely the product of design, not chance.

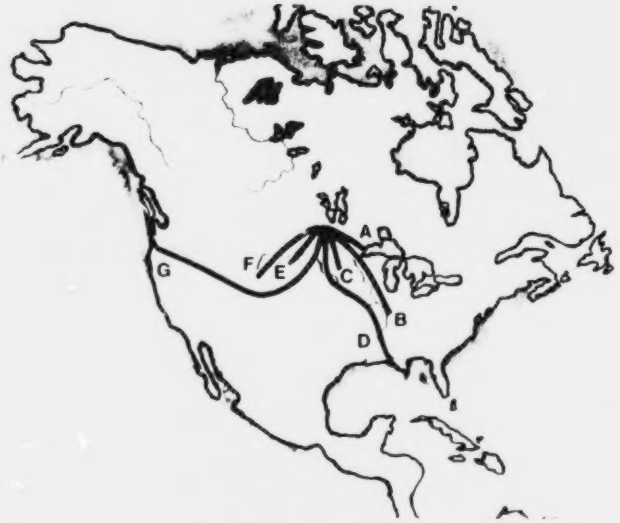


Variations in the arrangement of linear mounds as observed on the Grasslands of extreme southwestern Manitoba.



A headman directs the construction of a mortuary mound. The custom of laying the deceased to rest beneath earthen tumuli was introduced into Southern Manitoba from the American Midwest where, among the "Hopewellian" people, it was developed to a very high degree.

The understanding of the utilization of Southern Manitoba prior to the fur trade is marred by a lack of knowledge of the different tribes who used the area (for example Hidatsa, Mandan, Crow, Cheyenne, Gros Ventre, Assiniboine, Western Cree, Western Ojibwa or Bungi, Eastern or Santee Sioux and Western or Teton Sioux and other less-likely possibilities). Nor is it known how many different ceramic traditions actually existed because archaeological work on the subject has been limited. Neither is it known how the prehistoric and historic tribal groups were related. It is clear however, that there was tremendous cultural variety due to migration, development, seasonal utilization of the region, and the blending of traits through social interchange.



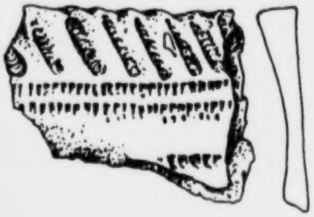
Exotic raw materials that occur in artifact form in Southern Manitoba, and their places of origin: A -- copper from Lake Superior; B -- chert from Illinois; C -- pipestone ("catlinite") from Minnesota; D -- conch shell from the Gulf of Mexico; E -- Knife River Flint from North Dakota; F -- obsidian from Wyoming; G -- dentalium shell from the West Coast.

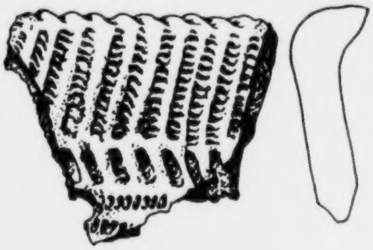
THE BLACKDUCK CULTURE (800 - 1700 A.D.)

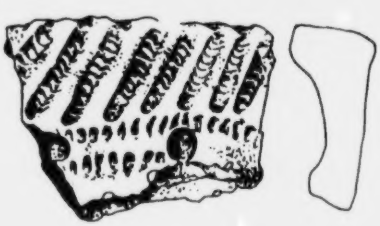
The Blackduck Culture appears to have developed out of a generalized Late Prehistoric Woodland pattern which stretched across southern Minnesota, northern Wisconsin, Michigan, and southern Ontario. In these areas at about 500 to 800 A.D., subsistence strategies and material culture varied little. Cord-roughened pottery with cord-wrapped object impressions was used over a vast area, and in a wider sense all such pottery may in some very general way be related.

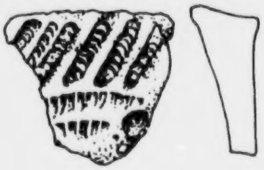
By around 600-700 A.D., significant developments were beginning in the east as seen in the "Princess Point Culture" centered at the western end of Lake Ontario. Ceramics of the earliest Princess Point phase share similarities with Blackduck pottery. However, these commonalities diminish quickly through time. Other material traits are those of the generalized early Late Prehistoric period. However, diagnostic traits such as ovate bifaces and triangular projectile points occur much earlier in the Princess Point Complex than they do further west. It was probably through the Princess Point Culture that corn agriculture was first introduced into southern Ontario. As the archaeological evidence for reliance on corn increases through succeeding Princess Point phases, the resemblance to Blackduck assemblages becomes obscured and, eventually, almost non-existant.

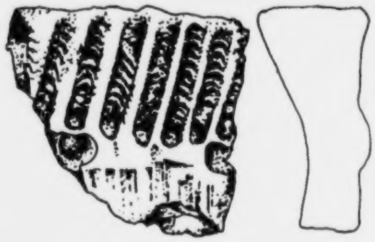
Blackduck potsherds ("rimsherds") from a site in the Boreal Forest of southeastern Manitoba. The thick oblique lines are known as "cord-wrapped object" or "cord-wrapped stick" impressions; the large circular indentations are "punctates". ▶

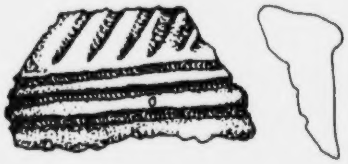


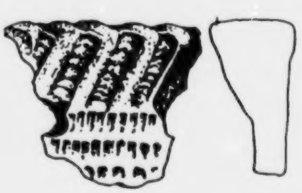


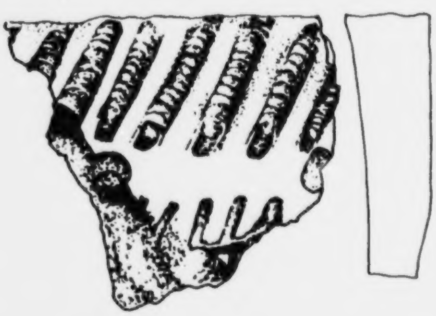


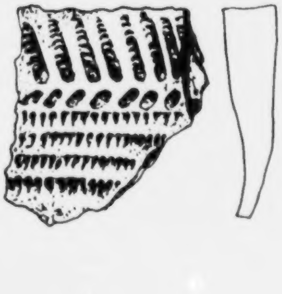


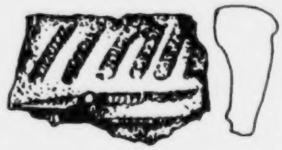


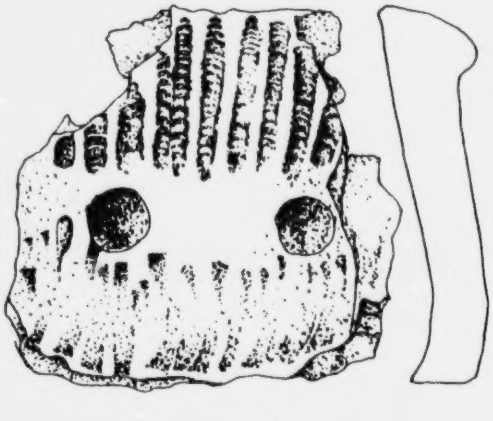


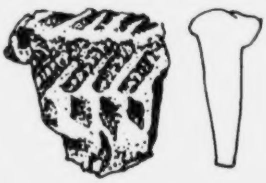


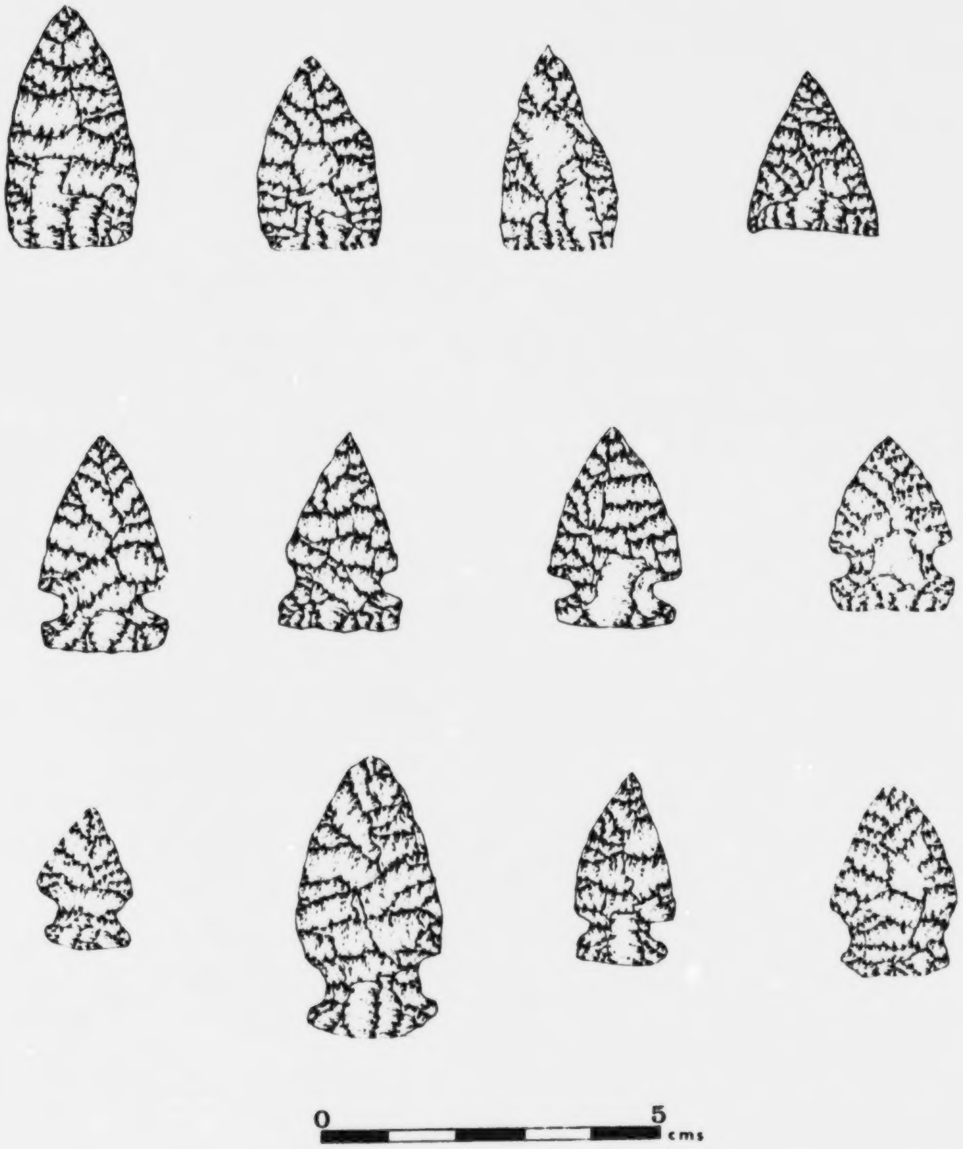










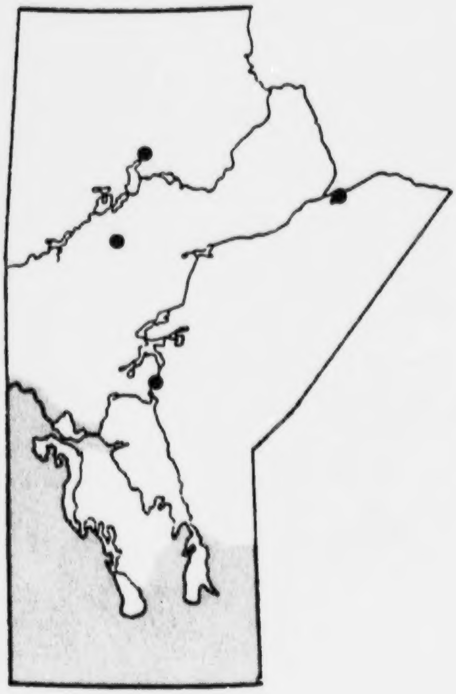


Projectile point types of the Late Prehistoric Period of southwestern Manitoba: Top row -- Triangular points; middle row -- "Plains Side-notched" points; bottom row -- "Prairie Side-notched" points.

Further north and east in the Straits of Mackinac, Michigan, early ceramics dated 800-1000 A.D. show definite affinities with Blackduck ware. After 1000 A.D., maize was introduced and cultural affinities shifted to the south.

The adoption of agriculture south of the Great Lakes had profound effects on hunting and gathering populations to the north. The archaeological record indicates that increasing reliance on agriculture among southern groups was accompanied by population increases, restructuring of social organization, and persistent threat of warfare. Population pressures and resulting territoriality may have combined to force generalized hunting and gathering groups (i.e., non-agriculturalists) northward out of areas amenable to agriculture. Thus, we see Blackduck affinities in the southeastern Great Lakes diminish as maize agriculture developed there. The introduction of maize into the southern Great Lakes area roughly coincides with the onset of a moist period. The northern limits of the deciduous forest would have been extended northward, freeing more land for agriculture and pushing generalized hunter-gatherers further to the northwest. As more such groups were forced north to and west along the northern shores of Lake Superior, a consolidation may have occurred which manifested itself in the emergence of the Blackduck Culture. By 800 A.D., Blackduck people had spread into the Aspen Parkland of Manitoba and adapted themselves to the seasonal hunting of bison.

Although they mainly hunted the bison, they also augmented their diet with clams from the rivers; with animals such as deer, wolf, and bear that lived in the forested areas of the river valleys; and with a variety of wild fruits and plants. They thus utilized a broad spectrum of available resources which enabled them to adjust to minor shortages in any specific

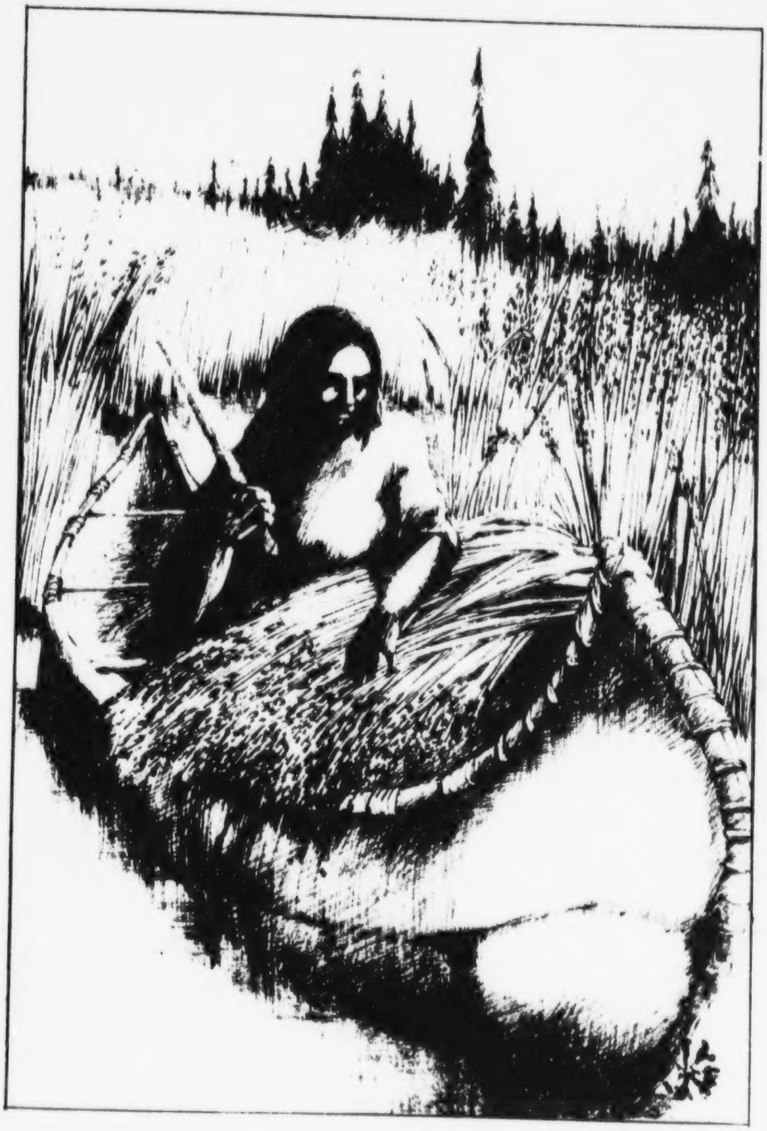


The known distribution of the Blackduck Complex in Manitoba. The information provided here emphasizes the "migration theory" which maintains that the Blackduck Complex represents a movement of people into Manitoba from the east. An alternate point of view holds that the most distinctive element in the Blackduck assemblages, the pottery, "diffused" as a set of ideas through a number of populations that were more or less geographically stable. According to this theory, then, it was the Blackduck pottery style that moved into Manitoba, and not a group of people (or their descendants) from Southern Ontario.

resource.

The shift from the heavily forested Great Lakes to the drier, more open Aspen Parkland and prairie environments required some adjustments in the way these ancient hunters and their families made their living. The kinds and distributions of plants and animals, rocks and minerals differ greatly from one natural area to another. Even though certain useful resources were comparable over vast distances (e.g., plant fibres for textiles and twines, clays for pottery vessels, bone and antler for knives, spoons, fleshers, whistles, and beads, and certain types of stone), other favoured resources such as birch bark, wild rice, moose and beaver, and certain medicinal herbs were absent or no longer available in large quantities.

On the other hand, at least two very valuable resources became more available as people moved westward. Of great importance was the bison. This huge, gregarious and tempermental beast provided the opportunity for



There is good reason to believe that wild rice was part of the diet of the Blackduck people in southeastern Manitoba.

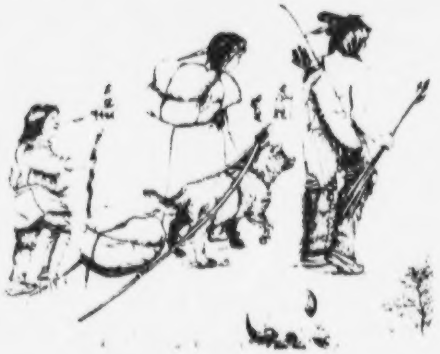
hunters to acquire tons of meat from a single, co-operatively organized "drive". The abundance of meat, sinew, hide and bone obtained from a single drive could feed and maintain a group of several hundred people for weeks on end.

Another important resource was the Knife River Flint , quarried from open pits in western North Dakota. Its usefulness and popularity for trade are indicated by its appearance in countless archaeological sites and private collections from the Great Lakes to the Churchill River, and as far west as the Rocky Mountains! Other important sources of stones for tools were the agates, jasper, and fine cherts from the more local Souris River gravels.

We have found no prehistoric dwelling structures of the Blackduck people, but it is likely that families lived in oval, bark or rush mat wigwams like those used by later Algonquian Indians around Lake Superior. These structures were built on a light framework of saplings. They were probably scattered along the terraces of the river valleys in clusters of related families. A few conical tipis may have been adopted through interaction with Plains Indians of the time.

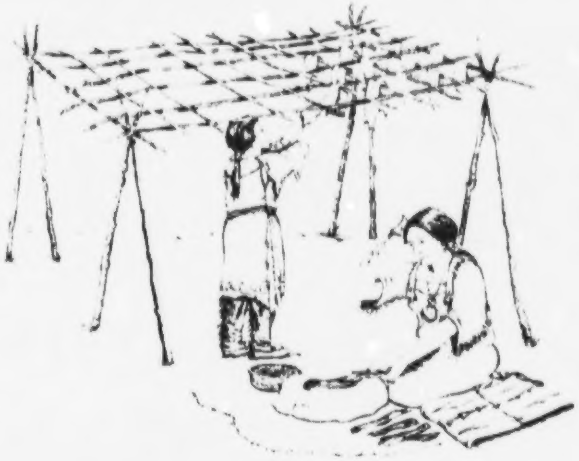
Most material belongings were made to be as light and portable as possible, since everything had to be carried in backpacks or by dog travois. Heavy objects such as milling stones or grooved mauls were likely left behind, to be used again when the camp was reoccupied. Other tools would be discarded when broken or worn out, and a few would be lost. It is this sort of debris, plus the by-products of stone-, wood-, and bone-

The movements of the Blackduck people in the Grasslands and Aspen Parkland are referred to as "pedestrian nomadism".

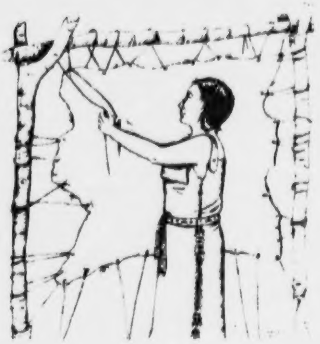


processing activities, as well as hearths, cache pits and post molds, that make up the bits of evidence sought by archaeologists today.

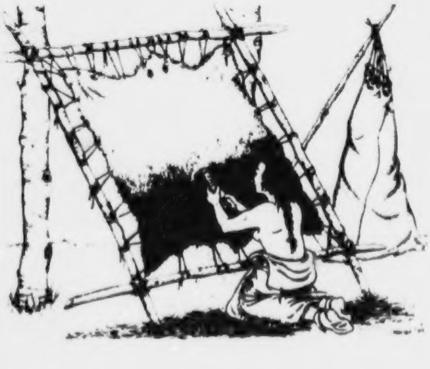
For example, after a successful hunt, animals might be dismembered at one location and only selected joints and cuts would be carried back to the base camp. Butchering and fleshing was done with stone knives in bone handles, or knife-sharp splinters of large long bones from the dead animals. Large grooved stone mauls were used to pulverize the meat, grease and berry mixtures into pemmican. Hides were fleshed and prepared with stone and bone scrapers,

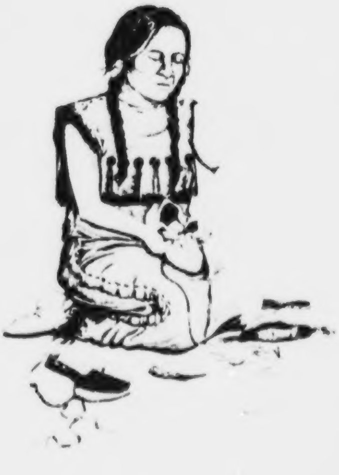


then sewn with bone or copper awls, sleeping robes, pouches and clothing. Most of this work, both heavy and light, was carried out by the women.

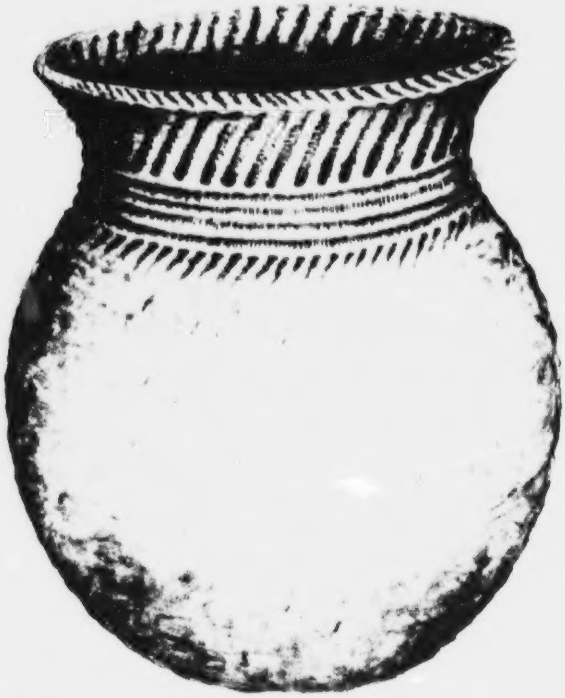


We can reasonably predict that the leather-working industry was primarily in the hands of women in the Blackduck Culture.





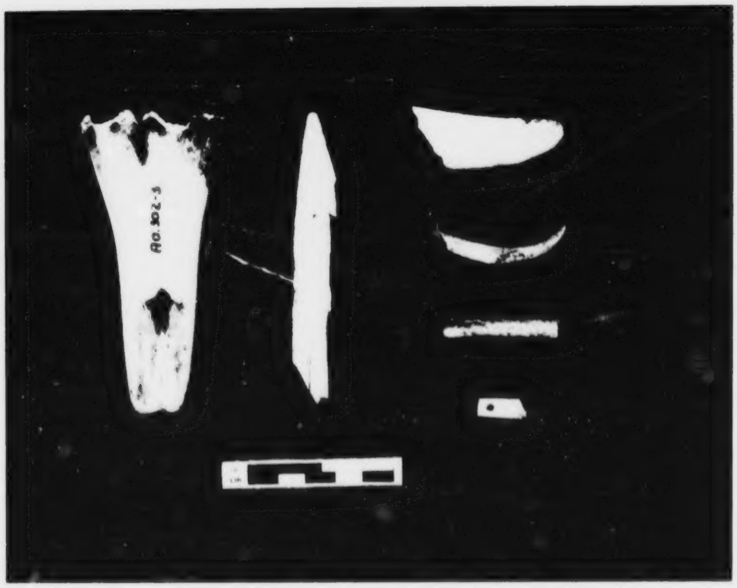
Pottery consisted of large, fragile, globular, vessels that were used for cooking and food storage. They were made by the women from local clays and crushed rock. The vessels were built inside a skillfully twined textile container and then decorated with cord-wrapped rods before final drying and firing. While the textiles are no longer preserved, the textile impressions can be studied from the surfaces of the broken vessels.



Artist's reconstruction of a Blackduck pot, based on findings at a site on the Winnipeg River of south-eastern Manitoba.

Vanity and concern for personal appearance are universal. Bone pendants and beads provided some of the decoration for the Blackduck people of Manitoba. Copper was traded from north of Lake Superior, and dentalium shell was received through trade networks from Indians living on the West Coast.

Little direct evidence is available on religious beliefs, although the people undoubtedly recognized a variety of supernatural forms such as the giant thunderbirds that caused lightning, thunder and storms.

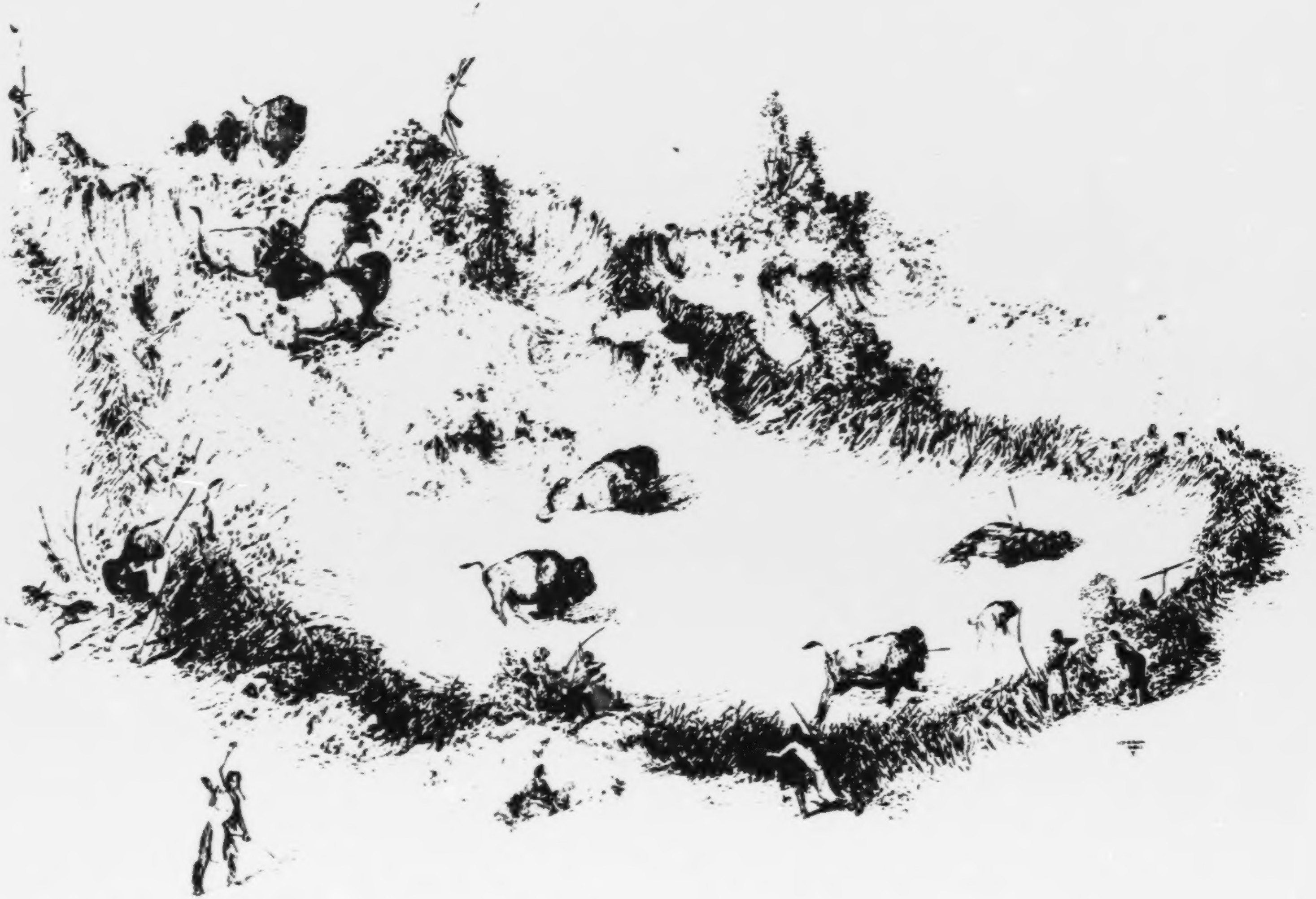


Bone artifacts from a Blackduck archaeological site in the Aspen Parkland near Brandon: a -- polished fleshing tool; b -- unilaterally barbed lance or harpoon tip; c -- polished "knife" tip; d -- polished crescentic perforator; e -- polished bone bead; f -- polished and perforated bone fragment (eye of needle ?).

Bone whistles made from bird leg bones and resembling those used in the "sundance" centuries later have been found in Blackduck sites. Another religious item that has been found in some Blackduck sites is the tubular stone pipe used in smoking the sacred tobacco.

All of the cultures described or mentioned above (with the exception of Hopewell) depended on bison for their existence. The bison provided food, skins for shelter and clothing and even fuel in the form of buffalo chips. It should be borne in mind that bison in southwestern Manitoba migrated seasonally and would not be common on the prairies in the winter when they would move into the more sheltered Aspen Parkland or river valleys.

Other animals were probably used for food, albeit only as a supplement to bison. The juxta-positioning of prairie and marsh in places



The use of the "pound" for trapping and slaughtering bison continued in use in the Grasslands and Aspen Parkland of western Canada throughout the Late Prehistoric Period and on into historic times.

like the Oak Lake area near Virden, for example, offer a broad resource base for use by past hunters and gatherers. Bison were probably attracted by the water in Oak Lake and the lush vegetation associated with this area. Migratory waterfowl use Oak Lake as a resting and feeding stop in their spring and fall migrations. A large number of muskrats can also be found in the marsh and these could be eaten. Edible wild plants of several species can be found in the area, and trees in the form of the oak groves on the "islands" in Oak Lake may have existed there in times past. Wood from these trees could have been used for building shelters and making equipment.

Another locality of considerable Late Prehistoric human activity is the Delta Marsh north of Portage la Prairie. Although evidence is as yet scanty, the environment of the area appears to have been more or less uniform for the past 1,000 years. Lake water levels probably fluctuated about as much as they have in recent decades, alternately flooding and exposing large areas of the marsh. Bison would be available on the ridges and margins of the marsh during the spring and summer but may have sought shelter in aspen groves to the south in winter. Beaver and muskrat could be captured during all seasons, birds would be especially numerous during spring and fall migration, and fish could be most easily obtained during spring spawning.

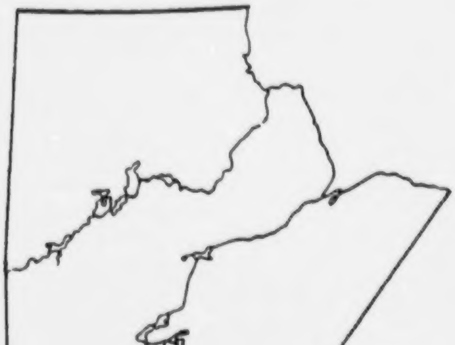
The Late Prehistoric inhabitants of the area were seasonally nomadic, gathering in larger groups when there was abundant food, splitting into smaller groups when food was scarce. The Bell Site, located on one of the old shorelines of Lake Manitoba, seems ideally situated for such groups to gather and exploit the resources of both the marsh and the lake. It was probably occupied during two seasons of the year; late summer or early fall for hunting and plant collecting, and spring for hunting and fishing. Other camps on the ridges leading to the marsh would also have been occupied during the warm months of the year. The people spent the winter in the shelter of aspen groves.

Although it can be inferred that the site was occupied by family groups, there is little to indicate the kinship composition or residence rules of these groups. One clue to such social patterns is the variable and often distinctive designs applied to pottery vessels before they are fired. It is safe to assume that women were the potters in Late Prehistoric times as they were among historic Canadian Indians. These designs together with their techniques of application would be passed on from mother to daughter (or grandmother to granddaughter) much as sewing skills are today. If women moved from their natal group at marriage, pottery decoration would be thereby dispersed, with women from different groups each making the styles learned in their original group. If, on the other hand, men joined their wife's group at marriage, decoration would be less variable. Decorative variation within sites compared to that between sites should thus reflect post-marital residence and the degree of inter-marriage between groups.

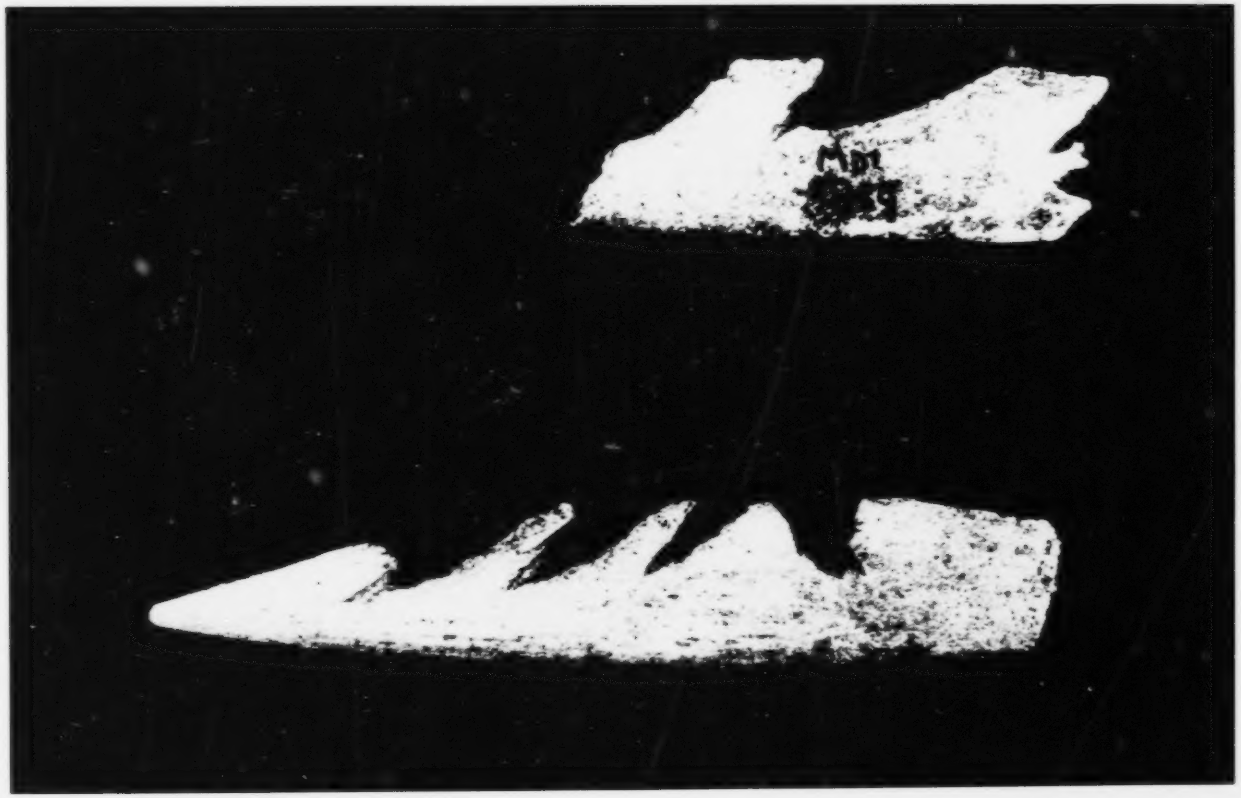
The Bell Site pottery is quite variable, representing types from four different ceramic wares. Several types appear to have been deposited at the same time, possibly by the same group. Corresponding ceramic variety involving the same pottery types occurs in upper levels of several southeastern Manitoba sites. If this variety was produced by single groups, then within-site variation, is greater than between-site variation, suggesting that female potters left their natal groups at marriage. Furthermore, the distribution of some pottery types over much of Manitoba indicates a wide network of social interchange. Another indication of intergroup contacts is the occurrence of Knife River Flint at the Bell Site and elsewhere in Southern Manitoba. Trade with peoples living to the south was probably the means used to obtain it.

THE MISTIKWAS CULTURE (850 - 1700 A.D.)

The Mistikwas people were among those who inhabited the southern Boreal Forest of Manitoba at the time of the arrival of the Europeans. Their liefstyle was based upon the hunting and gathering of wild animals and plants, and the manufacture of different types of bone and stone tools that were essential to their existence. In addition, the women constructed ceramic



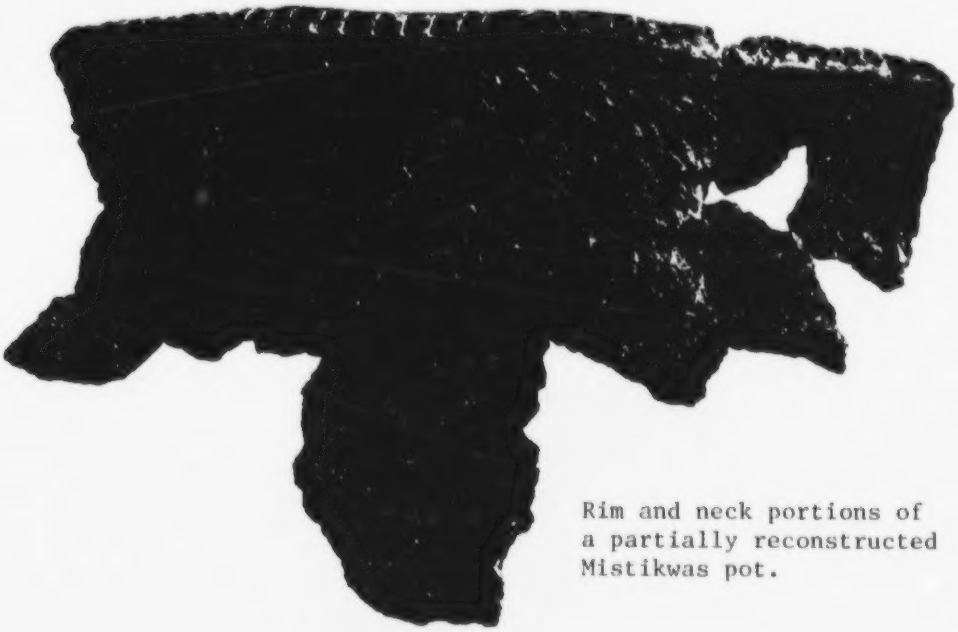
The known distribution of the Mistikwas Complex in Manitoba.



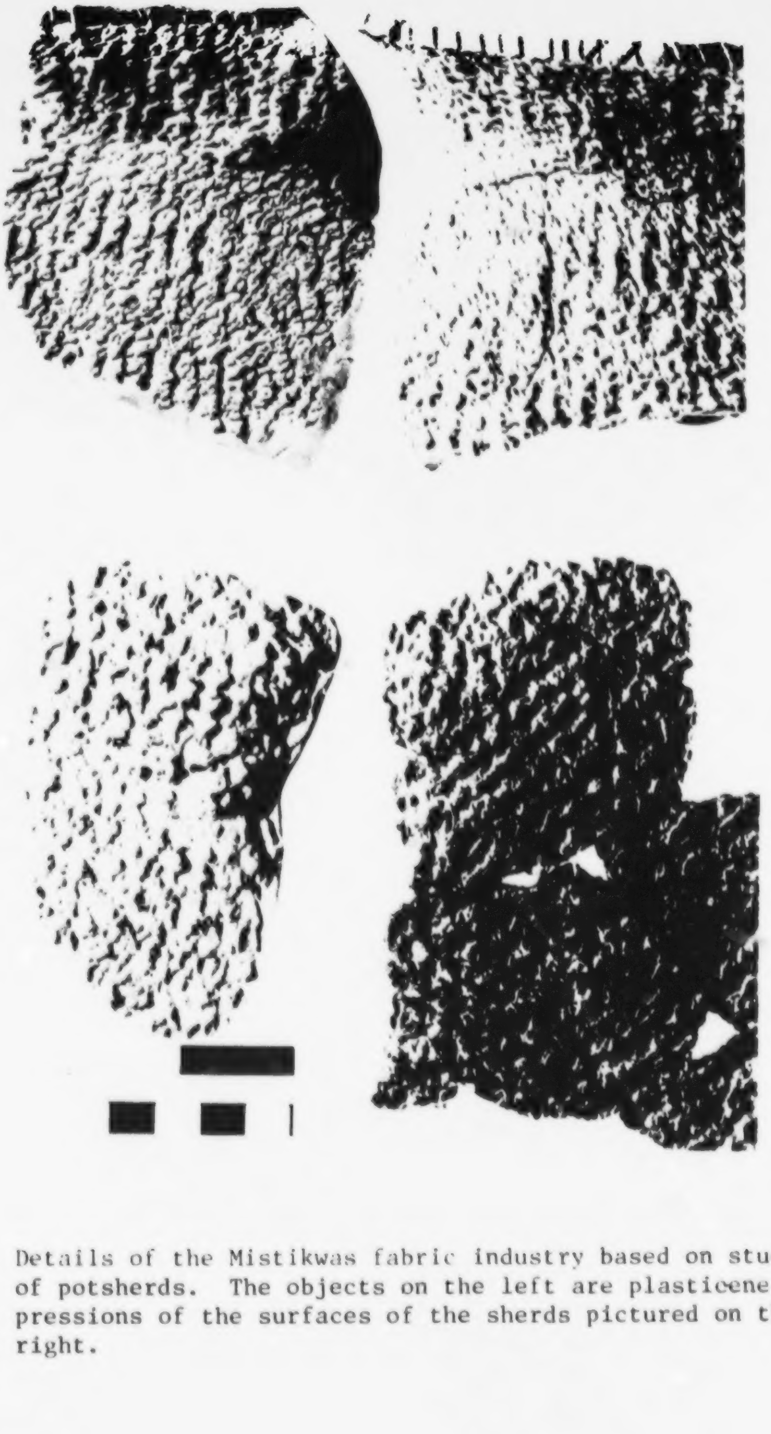
Harpoon heads from a site in western Manitoba that contained Blackduck pottery. Fishing with the aid of harpoons was an important food-getting technique of all of the Woodland Pattern peoples of the Late Prehistoric Period.

containers of various shapes that served as cooking and carrying containers. This pottery forms one of the main distinguishing characteristics of the Mistikwas Complex, dating from approximately A.D. 850 until the coming of the Europeans. It is believed that the Mistikwas peoples were early Cree Indians for the most part, and perhaps other groups related to or living near them. Indeed, the term "Mistikwas" is the first three syllables of the Cree word for "forest".

Comparable with other Late Prehistoric cultures of the Boreal Forest and Aspen Parkland regions, pottery-making was an important industry. Manufacturing the pots was a time-consuming process, although it was probably very enjoyable and rewarding. The first step was mixing temper of quartz, sand, or crushed granite with the clay to achieve just the right consistency. The clay was then shaped into a thick cup or bowl,



Rim and neck portions of
a partially reconstructed
Mistikwas pot.



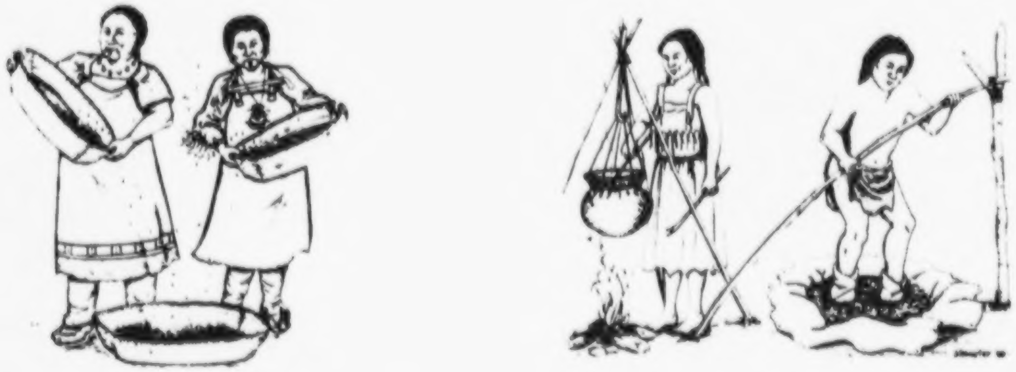
Details of the Mistikwas fabric industry based on studies of potsherds. The objects on the left are plasticene impressions of the surfaces of the sherds pictured on the right.

and the outside of the vessel was beaten with a fabric-covered paddle while a smooth rock was held on the inside as the pot was thinned. The vessel was shaped and additional lumps or slabs of clay were added until the pot was fully formed.

In this "paddle-and-anvil" method, the paddle was covered with a tightly-knit woven fabric or wrapped with a twisted cord, thus creating the "fabric-impressed" effect. More recently, archaeologists have discovered that Mistikwas vessels were also formed inside or around a fabric or basket mold. The procedure involved pressing slabs of clay within or outside of a basket. The paddle and anvil technique may have been utilized to thin and smooth the vessel against the mold. When the clay dried, the basket was either removed or else left in place, to be burnt off during the firing of the container. The most characteristic pot shape featured a squat body with a rounded base. The majority of Mistikwas vessels have smooth interiors, although specimens with fabric-impressed interiors have also been found.

The most consistent characteristic of Mistikwas ceramics is the fabric-impressed body (there have been some vessels that were simply smoothed). "Punctates", which are shallow holes pushed into the vessel while it was still soft, are often the only decoration, and are typically confined to the lip or the area immediately below the lip. These markings are usually on the exterior of the vessel. Other forms of decoration consist of small cord-wrapped-stick impressions, twisted cord and other tool impressions, or incising. Once the pots were formed of wet clay and decorated, they were allowed to dry. After that, they were fired in or near the campfire. The resulting vessels were likely used for cooking purposes, storage, or for carrying water.

It is believed that the Mistikwas people lived in large fishing camps during the warm months of the year. Plant and animal remains found at numerous sites suggest the environment was similar to that of today. Although fish was the main staple during seasons of peak abundance, various animals such as deer, moose, caribou, beaver, bear and birds were hunted. The size of their weapon points suggests that bow and arrows were the weapons predominantly used; however, smaller animals were probably caught with snares and traps as well. Furthermore, bone harpoons found with the fish bone suggests the use of the spearing method. Freshwater clam shells, wild plum pits and burned seeds located in the sites give archaeologists some idea of the food gathering that was carried out. Wild rice is thought

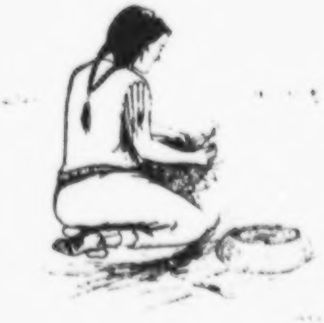


Aspects of processing wild rice: left -- winnowing; right -- threshing; centre -- cooking with the use of a ceramic pot.

to have been eaten by those segments of the population that inhabited the Whiteshell area. The numerous fire places found by archaeologists in Mistikwas sites were lined with rocks that had been cracked from the heat of the fires. Associated with these hearths were charcoal-encrusted sherds of pottery, suggesting that much of the food was boiled.

Tool-making was an important every-day activity. Materials used included chipped stone, ground stone, and bone. Projectile points and scrapers for working skins are very common. Bone tools included awls, barbed points, needles, scapula hoes or shovels, and fleshing tools. The scapula hoes, made from the shoulder-blades of deer, are believed to have been used to dig the hearths and the above-mentioned storage pits.

Other activities thought to be carried on by the prehistoric Mistikwas people were bark carving, porcupine quill work, and painting. These crafts, together with pottery decoration, provided outlets for motivating their artistic aspirations. Woven thongs of leather used to create the fabric-impressions on pottery were also woven into fabrics for clothes, bags and fish nets.

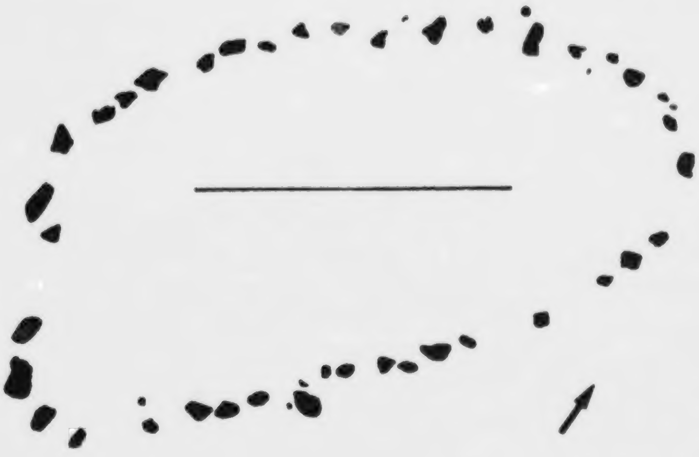


Due to the natural forces of organic decay, our chances of finding actual examples of Late Prehistoric fabrics and textiles are very slim. Fortunately, such information is available to us through the examination of potsherds which still bear the impressions of otherwise perishable materials (see p. 137).

Mistikwas habitation sites occur primarily along waterways, and are among the largest and most numerous archaeological sites found in Manitoba to date. At the same time, however, the refuse layers are very thin, all of which has led archaeologists to suggest that the Mistikwas people were composed of semi-nomadic or seasonally nomadic bands, some of which were fairly large. The Cree followed this pattern when the Europeans first contacted them, but they quickly adapted to the new situation and became middle-men in the fur trade. As a result, their clay pots and stone tools were replaced by metal containers, axes and guns, and the Prehistoric Era of the southern Manitoba forest country came to a close.

PETROFORMS

Perhaps the most intriguing archaeological discoveries made in southeastern Manitoba to date are the petroforms -- geometric, human, and animal outlines created by the arrangement of stones and boulders on bedrock surfaces in the forest. In many ways, petroforms are more difficult to interpret than most other prehistoric phenomena. Standard archaeological dating techniques cannot be used, because the stones were simply placed on a rock surface and have not been covered by soil since they were built. Nonetheless, it is believed that many were built a long time ago. No living Native informant can remember when they were built or why. Some rock circles to the north of the Whiteshell are known to have been "Vision Pits" or more commonly "Thunderbird Nests" -- places where young males went and fasted for several days in order to receive knowledge and the assistance of a guardian spirit. The Whiteshell petroforms may have been used for something similar, but no one can be sure. Turtles and snakes, perhaps

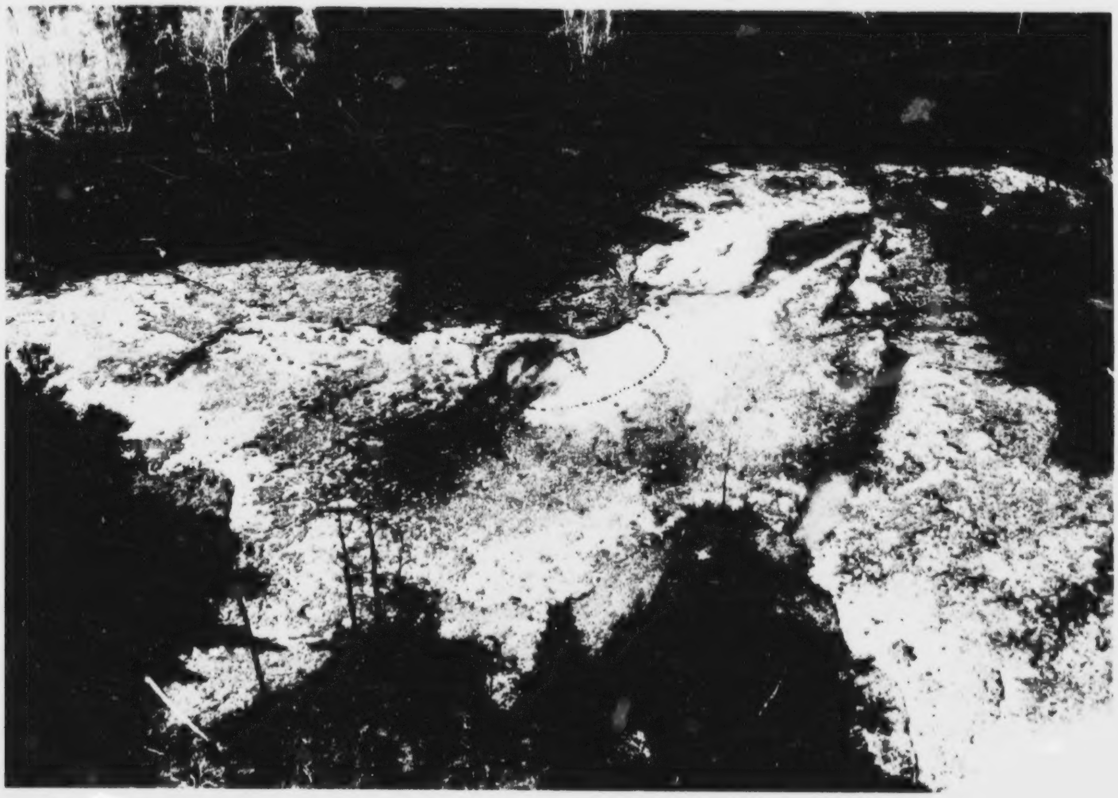


A ellipse-type petroform in southeastern Manitoba. The arrow points to the north; the scale is 3 metres long.

the most common kinds of arrangements, are very prominent in Native mythology and are often seen as symbolic sources of power and wisdom.

Such kinds of sites, if studied properly by trained scientists, can yield clues about the religious lives of prehistoric peoples which excavations at campsites and villages cannot. Petroforms are hardly ever near camps and it is only very rarely that artifacts are found anywhere near them. In some cases, they are so isolated that a hike of up to 45 minutes is required to reach the nearest source of drinking water. Clearly, the kinds of practices associated with the construction and use of petroforms had nothing to do with material subsistance, or normal day-to-day life. It seems most likely that they were intentionally built far away from camp so that initiations or secret magical ceremonies could be conducted in private.

In only one case was a campsite found in the vicinity of petroforms. The camp was approximately 300 metres away from two small outlines and no other artifacts could be located within a day's travel in any direction. It therefore seems reasonable to assume that the same people who lived in the camp built and used the petroforms. Archaeological evidence indicates that the camp was occupied in the fall months by about 10 people sometime



An aerial view of a complicated petroform located in southeastern Manitoba.

around 500 A.D. There is no evidence anywhere to suggest how long these peoples had been making petroforms in Manitoba, or for how long after 500 A.D. the practice continued. It would appear, however, that by the time the Europeans arrived in Manitoba, the practice had been largely discontinued.

Some years ago, researchers noticed one rather interesting aspect of these sites. Petroforms that had the same shapes seemed to be aligned in similar directions. For example, turtles tended to face in a westerly

A ground view of a petroform arranged in the shape of a turtle.

direction, while snakes were oriented to the south. Ovals and lines tended to be laid out so that they ran from southwest to the northeast. It seems obvious that for the builders of the petroforms to exhibit this kind of consistency, they must have been aware of the cardinal directions, and the only way that this could have been accomplished was by reference to the movements of the sun across the sky throughout the year. In fact, the oval-shaped features and straight lines exhibit a range in orientational variation that coincides with the rising position of the sun throughout the snow-free months of the year. This does not mean that they could necessarily predict where the sun would rise at any given time. It seems more likely that petroforms were aligned at the time of their construction so that they pointed toward the general direction of the sunrise. This is not overly surprising, as many prehistoric peoples seem to have viewed the sun as an important symbolic element in their mythologies.

THE EXTENDED MCKEAN-OXBOW CULTURE (1 A.D. - 900 A.D.)

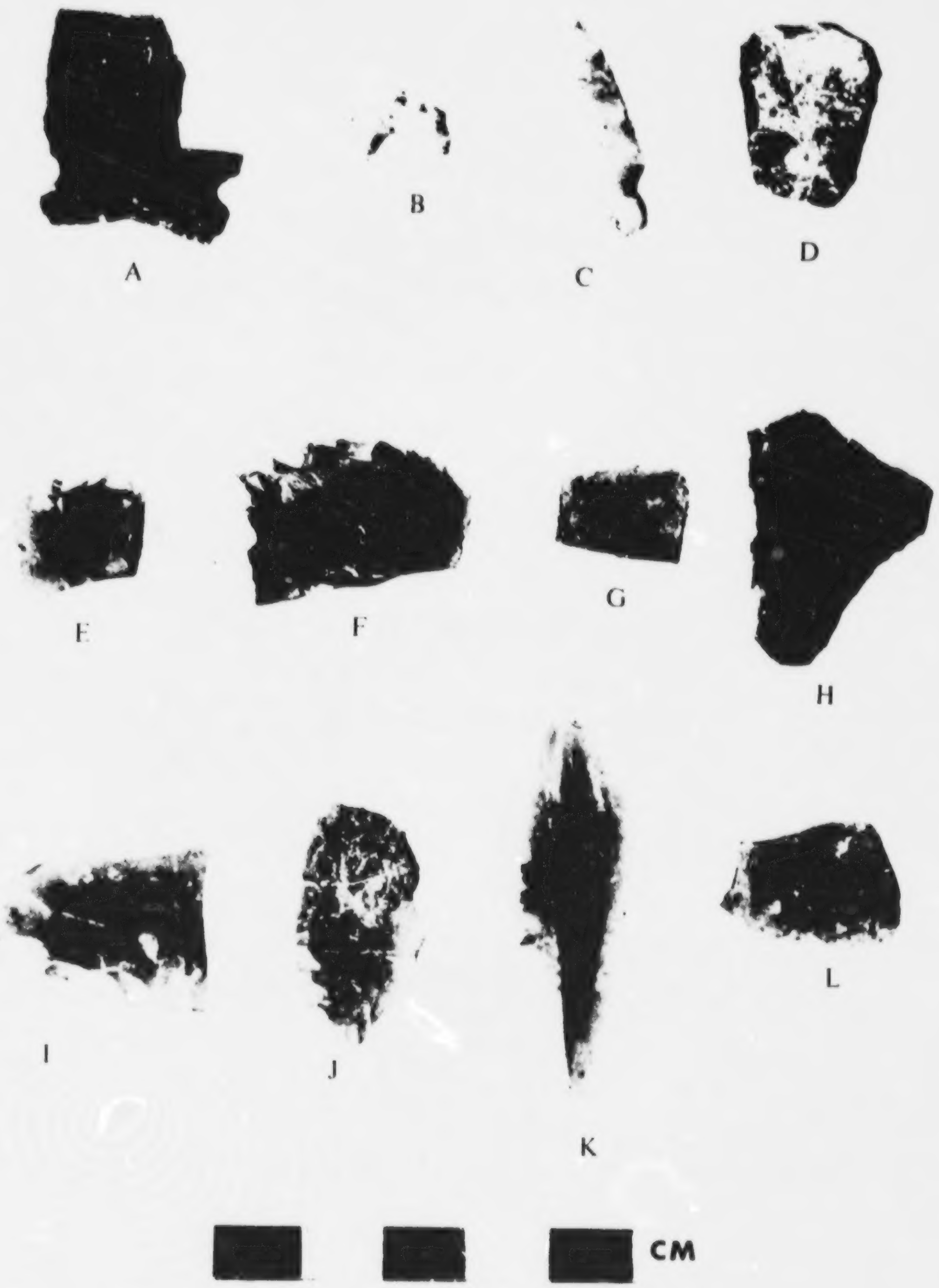
Before we leave or review of the Late Prehistoric Period in Southern Manitoba, we must consider a rather dramatic instance of cultural persistence on the prairies. At the Cherry Point Site on Oak Lake, McKean and Oxbow materials were unearthed which have been dated to 900 A.D. These results place the findings some 2000 years later than comparable materials discovered elsewhere. This "survivor" is referred to as the "Extended McKean-Oxbow Complex", and it has some interesting implications regarding cultural processes in Southern Manitoba.

The primary implications of an extended McKean-Oxbow complex in Manitoba prehistory are those related to lifestyle and co-existence. McKean, Oxbow, Pelican Lake, Besant and Avonlea did not apparently differ greatly in either settlement patterns or subsistence bases in the bison-rich Plains. Given the survival of the early Middle Prehistoric McKean and Oxbow complexes through the late Middle Prehistoric and on into the early Late Prehistoric, there arises the question of how these peoples were able to compete in the same ecological niche with supposedly more complex and sophisticated hunting-gathering societies.

It has been suggested that Besant and Avonlea (and most likely Pelican Lake) populations operated well *below* the natural carrying capacity of the Plains ecosystem, thus ensuring ample resources for both complexes. This is no doubt an adequate generalization for any prehistoric population on the Plains, but it offers no explanation regarding the survival of a less complex society such as McKean or Oxbow within the same general region. Various laws of cultural dominance,which hold that a cultural system that more effectively exploits the energy resources of a given environment will tend to spread in that environment at the expense of less effective systems, would rule out such a survival.

"Acculturation" on the part of McKean and Oxbow societies is a possibility that must not be overlooked. Acculturation is defined as the process whereby customs are transmitted through continuous first-hand contact between groups of different cultures, one of which is, characteristically, more highly developed. The adoption of various elements of Besant or Avonlea technology and/or social organization might have placed McKean and Oxbow peoples on a more equal footing with the other societies.

While acculturation may have been one of the means utilized by the Extended McKean-Oxbow to exist as contemporaries with later societies, another alternative line of investigation is of interest. Along with acculturation, or even independent of it, is the possibility of differential resource utilization. In other words, the Extended McKean-Oxbow peoples might have utilized a somewhat different adaptive strategy than the surrounding societies of the Boreal Forest-Parkland environments and the Plains. Such differential adaptations to or between these regions might explain the ability of different cultural systems to have survived and coexisted within the same areas without one or the other having been displaced.


A
B
C
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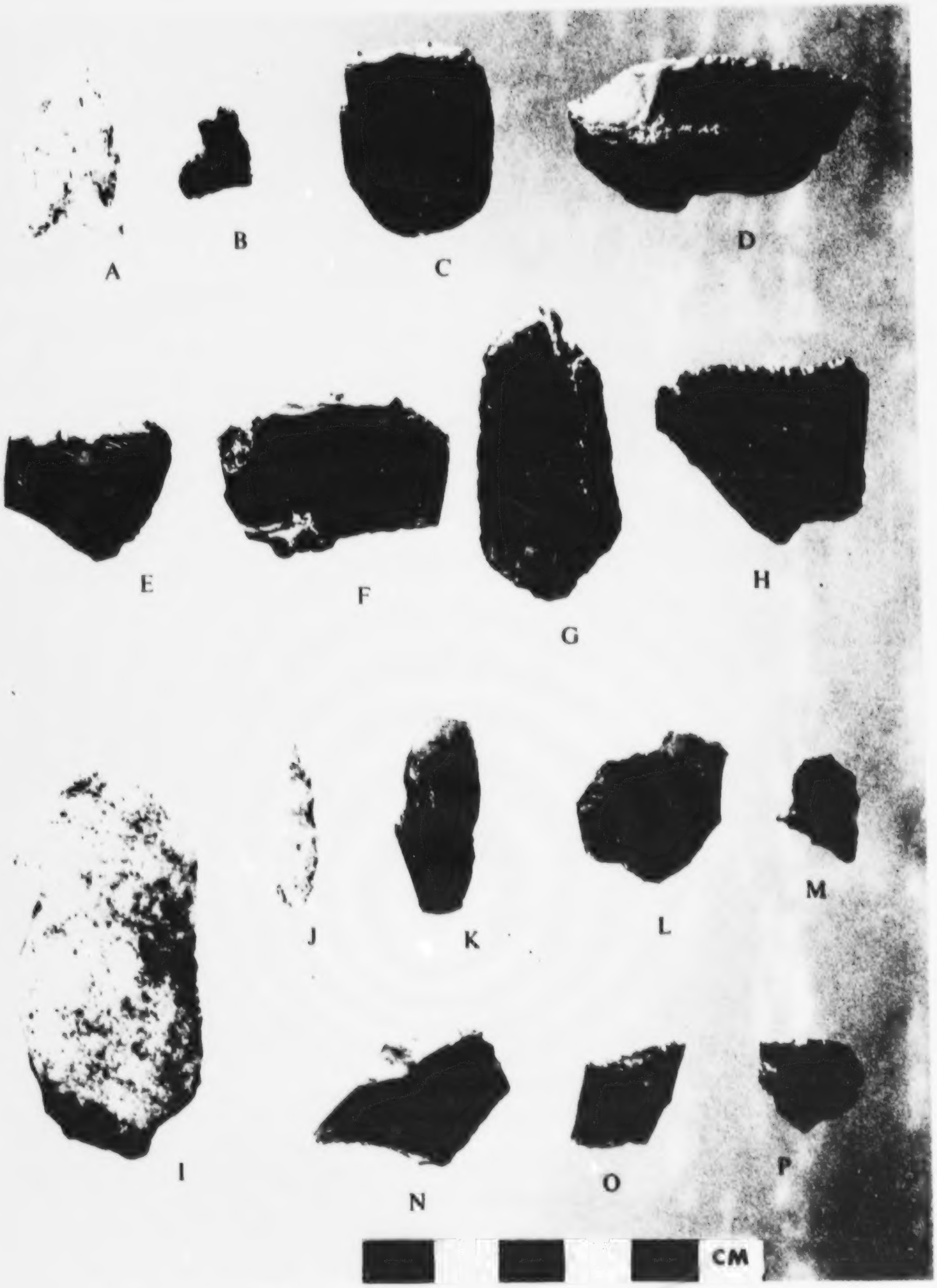
Artifacts of the Extended McKean-Oxbow Complex: A - C -- fragmentary projectile points; D - F -- end scrapers; G, H, J -- retouched flakes; I, K, L -- utilized flakes.



Artifacts of the Extended McKean-Oxbow Complex: A, B -- whole and fragmentary projectile points; C - H -- flakes worked on one surface (unifacially retouched); I, J -- flakes worked on two surfaces (bifacially retouched); K, N, P -- utilized flakes; L, M -- worked flakes showing discontinuous or irregular retouch.

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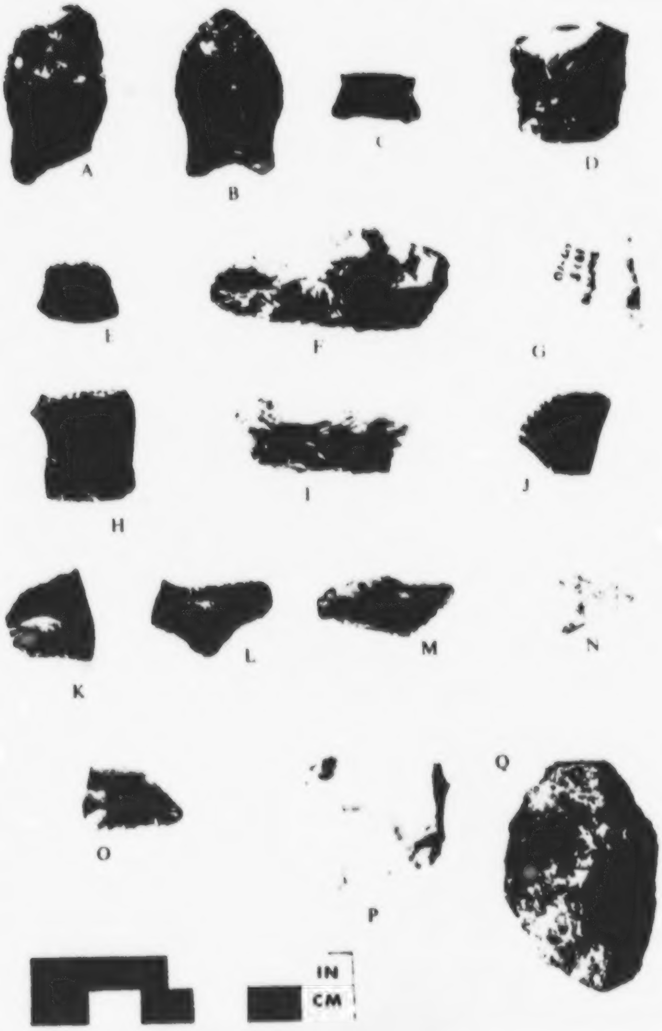
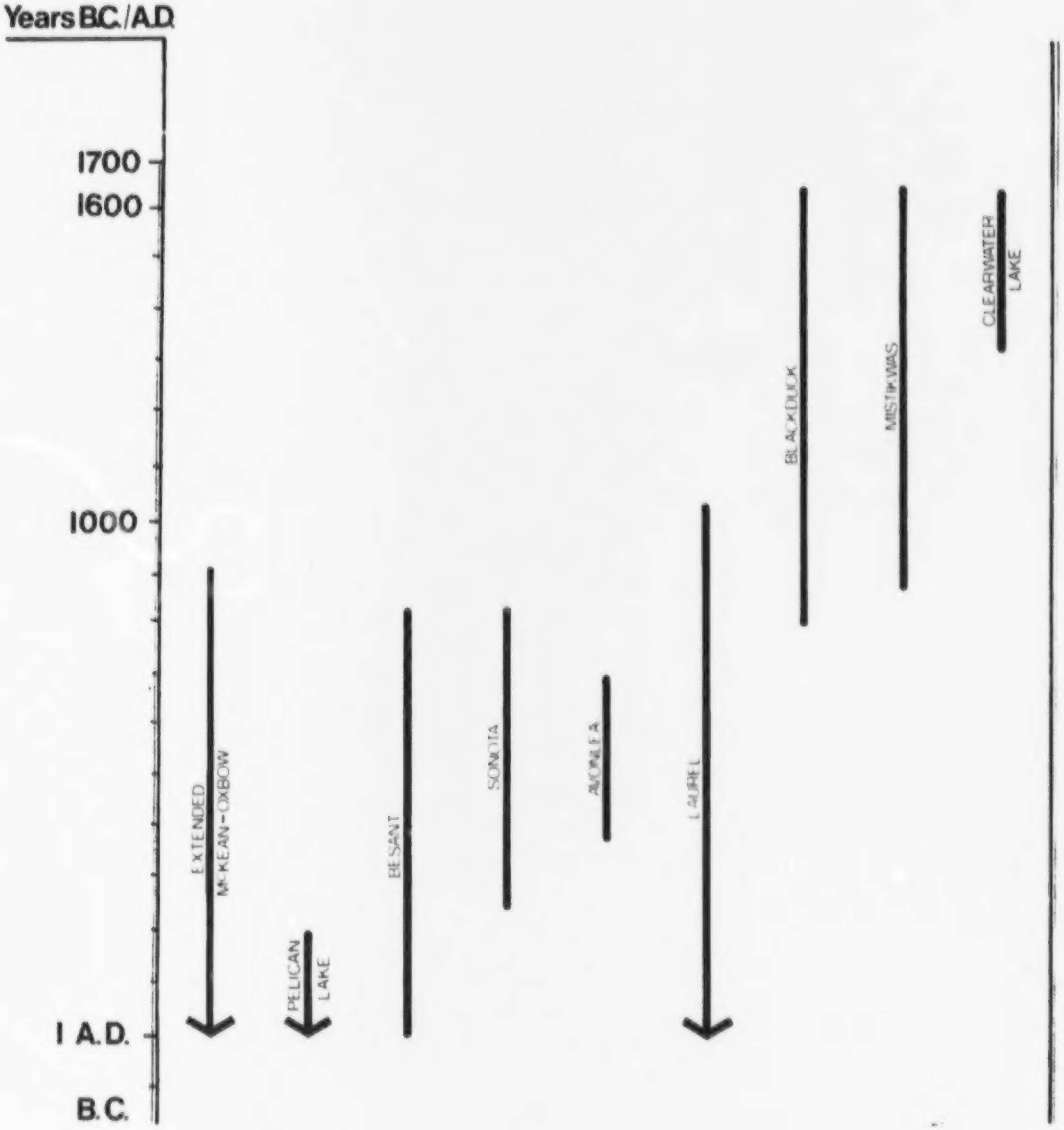
Artifacts of the Extended McKean-Oxbow Complex: A - C -- whole and fragmentary projectile points; D - G -- end scrapers; H - J, L -- retouched flakes; K -- utilized flake.



Artifacts of the Extended McKean-Oxbow Complex: A - C -- whole and fragmentary projectile points; D -- end scraper; E - I -- retouched flakes; J, K, N -- utilized flakes; L, M, O -- worked flakes showing discontinuous or irregular retouch; P -- core; Q -- tool blank (uncompleted tool).

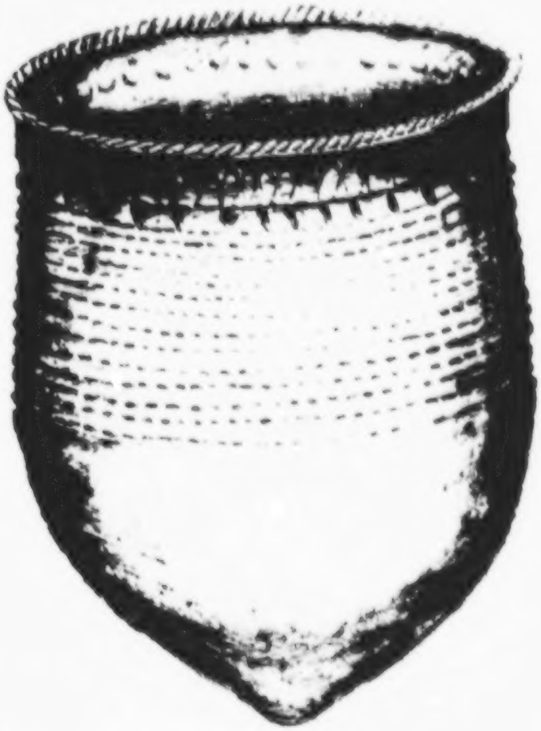


Cultural chronology for Southern Manitoba during the Late Prehistoric Period, 1 A.D. - 1700 A.D.. Only a small portion of the Clearwater Lake Complex falls within the Southern region, and a description of it appears in a subsequent section. This diagram does not by any means convey the cultural complexity of Southern Manitoba, much of which has yet to be deciphered by the archaeologist.

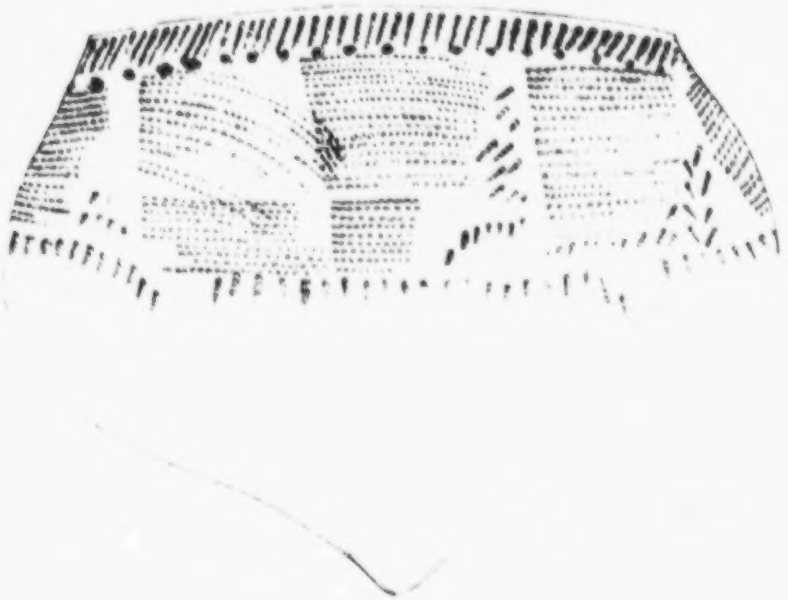
CENTRAL MANITOBA

THE LAUREL CULTURE (1 A.D. - 1000 A.D.)

In the Boreal Forest, the introduction of pottery-making around the time of Christ marks the boundary between the Middle and Late Prehistoric periods. The earliest complex to include pottery is the one we refer to as "Laurel". Although the Laurel Complex is a conspicuous occurrence in the Boreal Forest of southeastern Manitoba, its greatest distribution is in



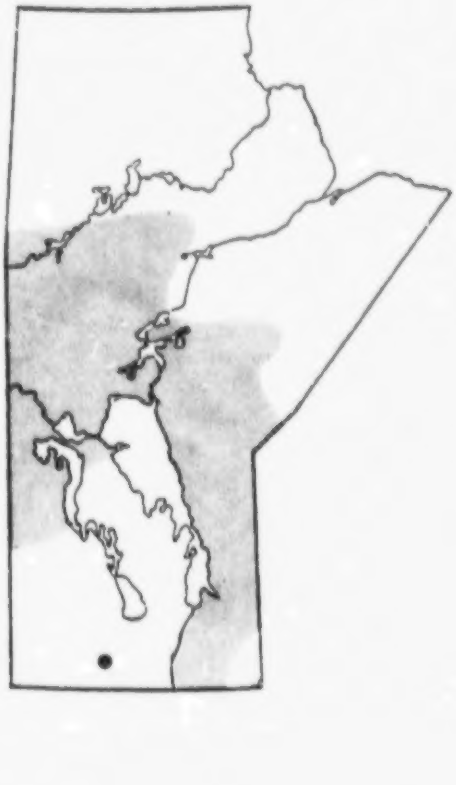
Artist's reconstruction of a Laurel pot based on archaeological findings at a site in southeastern Manitoba.



Artist's reconstruction of a Laurel pot based on archaeological findings at a site in southeastern Manitoba.

the Central portion of the province, and so we will consider it in some detail under this heading. There is no evidence that the Laurel pottery found on the Canadian Shield was invented independently of pottery traditions that were already in existence in the woodlands of the Eastern United States. At one time, it was thought that the likliest origins of the Laurel pottery lay far to the northeast in Siberia, because similarities in vessel shape and decoration occur in both areas. However, as more archaeological sites were excavated, their ages determined and their distributions noted on maps, it became clear that Northeastern Asia could not have been the homeland of this tradition. The most recent theory is that the technique of pottery-making was introduced into the Shield area from the Eastern United States, but the decoration patterns on the pots are "home-grown".

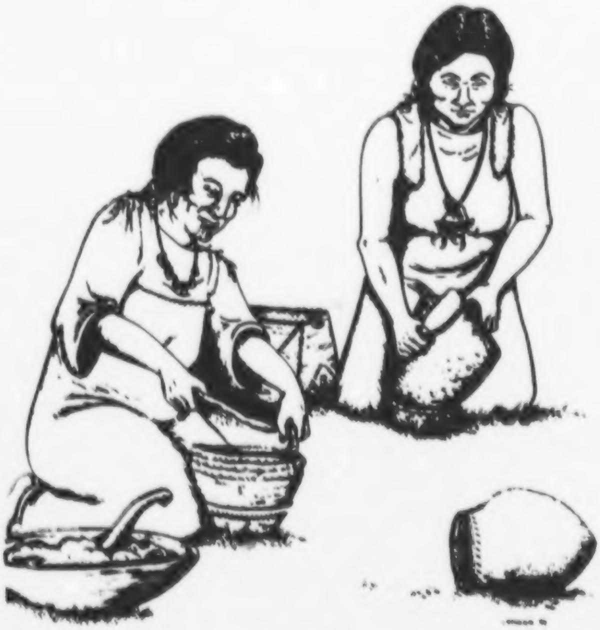
The Laurel pottery is named after a town in northern Minnesota. In all, several varieties, or "types, of Laurel pottery were recognized in Minnesota. These types are based on differences in decorative motifs. Most of these types are found throughout the geographical range and time period associated with the Laurel tradition; however, some types are more common in certain areas and at certain times than are others.



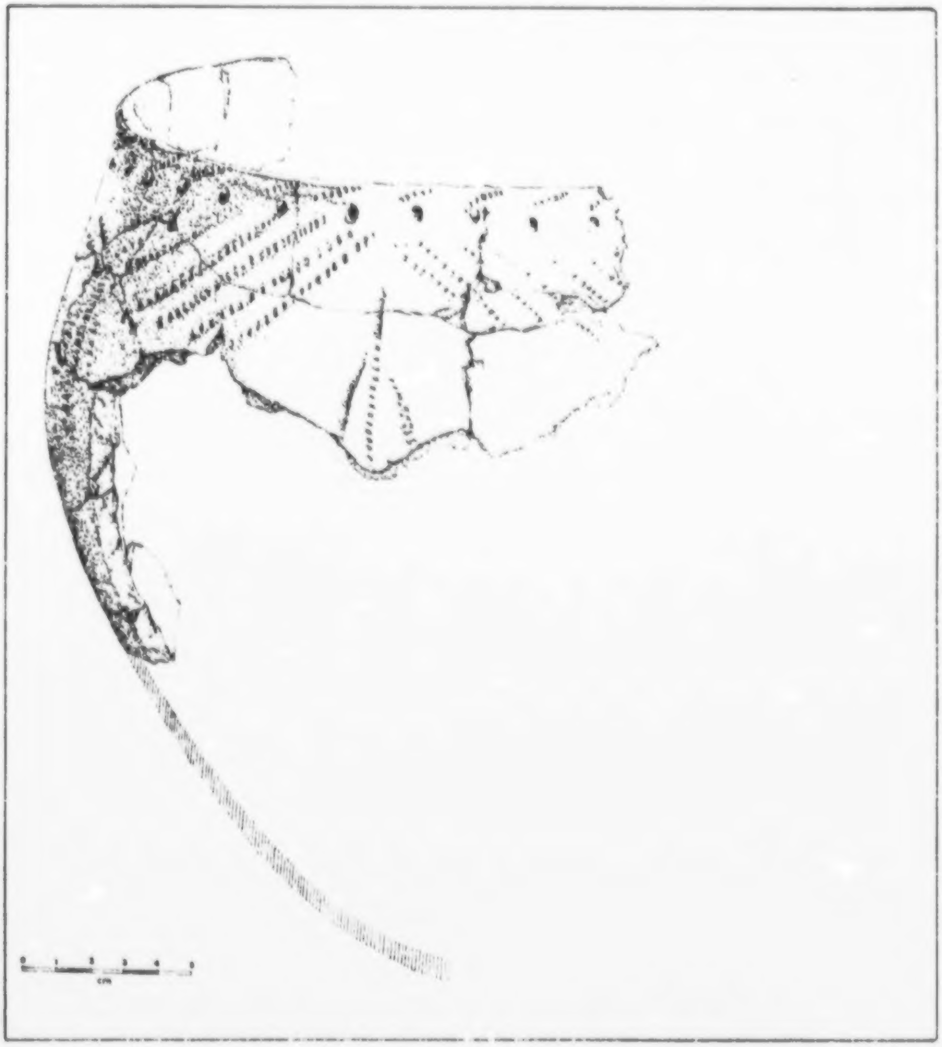
Known distribution of the Laurel Complex in Manitoba.

The forms of the vessels, and their method of manufacture, are basically the same as that observed for other prehistoric ceramic traditions situated within the Great Lakes region of the United States. First, the clay paste was mixed with particles of finely-crushed rock, or "tempered". The reason for doing this was based on the fact that when pottery is fired, the moisture in the clay evaporates and the walls of the vessel shrink. This puts considerable stress and strain on the pot, causing it to literally explode. This very undesirable result can be avoided by mixing a non-shrinking material, like crushed rock, into the clay. This reduces the amount of stress endured by the pot during firing and prevents it from coming apart. Once the clay was tempered, it was rolled into sausage-like coils that were placed on top of one another to build up the sides of the pot. The walls were then beaten with a paddle to thin them and, at the same time, increase the height of the vessel. Before the clay got hard, designs were scratched or pushed

Detailed analysis of potsherds has indicated that Laurel pots were manufactured by means of the coil and paddle-and-anvil techniques.



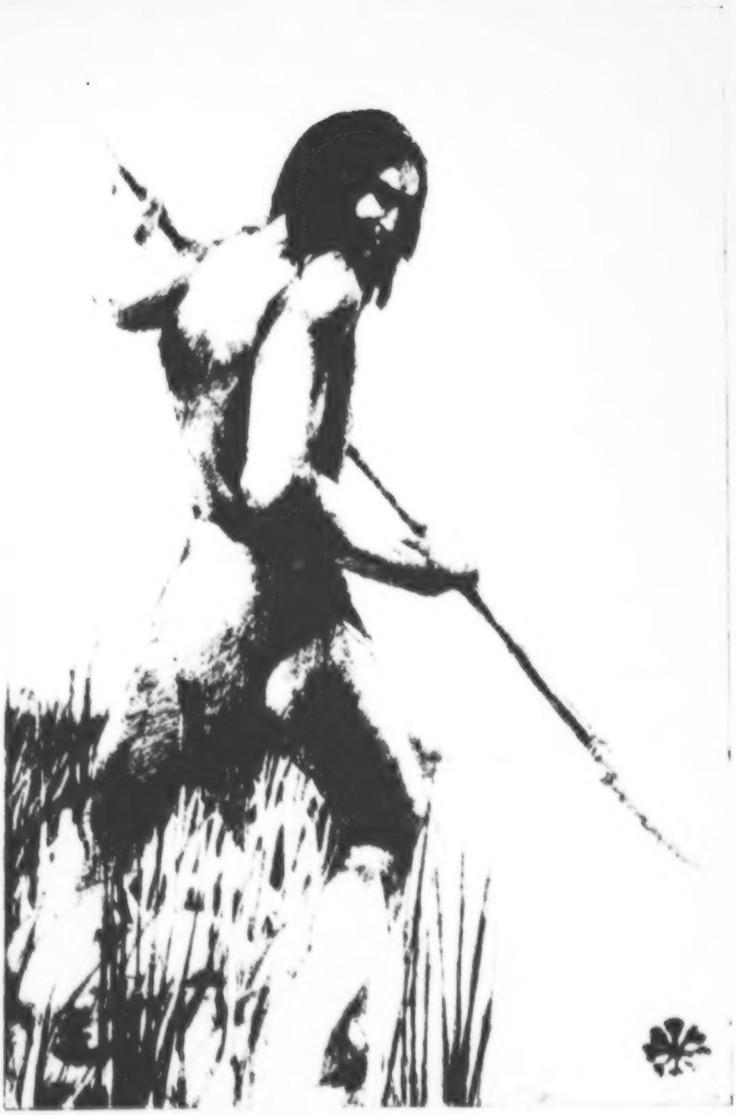
into the outside of the walls near the rim. Finally, the vessels were fired by placing them on a hearth. The finished form includes a pointed bottom, gently curving shoulder and tapered lip. Reconstructed specimens from Central Manitoba measure roughly 17 to 30 centimeters in height and 17 to 23 centimeters across at the mouth.



Pottery-making was but one part of a way of life. In Minnesota, sites containing Laurel pottery lie near the northern edge of an area that saw an earlier and more highly developed cultural development that included farming, construction of burial and ceremonial mounds and an extensive trade network. Along the northern shores of the Great Lakes in Ontario and Minnesota, native copper and, more rarely, a volcanic glass known as "obsidian" that came all the way from Wyoming are found along with Laurel pots. In Manitoba, such combinations occur only in the corner of the province nearest the Rainy River area of Ontario. Elsewhere, on the northerly river systems draining into Hudson Bay, mounds, obsidian, copper and Laurel pottery occur only separately. There is reason to believe that at least some of the petroforms discussed above were made by Laurel people.

In terms of their food-getting practices, it is clear that the people who made Laurel pottery depended a great deal on fishing. Bone harpoon heads are one direct indication of this activity, although they are rarely preserved in acidic forest soils. It has been estimated that the Great Lakes region was capable of producing 180 - 270 kg of fish per 2.6 km^2 per year -- a proportion exceded only by the rich fisheries of the seacoasts. This productivity is not matched in the Boreal Forest, although the association of Laurel sites with areas of heavy reliance on fishing is maintained.

"Who Were the Makers of the Laurel Pottery?" is a most difficult question and it can only be answered indirectly. It is at least possible that analyses of stylistic change through time may eventually link the latest Laurel wares with the earliest prehistoric Cree pottery from sites



Fishing was a major pursuit throughout the region occupied by the Laurel people.

in Central Manitoba. This would then relate the Laurel peoples with the historic Cree, or at least to peoples of the Algonkian language family.

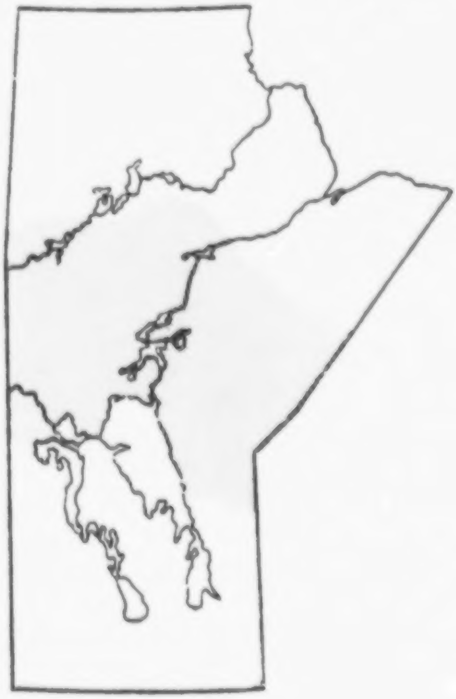
Among the Boreal Forest peoples of the Late Prehistoric Period, wisdom, skills, and knowledge were passed on orally and by example from generation to generation.

The only other scrap of evidence comes from a fragmentary langauge reconstruction of the original homeland of the earliest, or "proto-" Algonkiam, centred east of Lake Huron. From this hypothetical homeland, widespread migrations of people are suggested to have begun around 1200 B.C., which led to a doubling of territory occupied by these Easterners by 900 B.C. A further 300 years of expansion would bring the early Algonkianspeakers as far west as Rainy River by the time the earliest Laurel ceramics were being made.

The difficulty with this, as with any hypothetical solution, is that it has to be tested and verified on the basis of incomplete archaeological data. Even if this should prove a likely account of what really did happen, it deals with only one small part of the prehistoric record, and so serves as only one piece in a much more complicated and intricate puzzle -- that of a full reconstruction of Laurel culture over time and across many thousands of square miles.

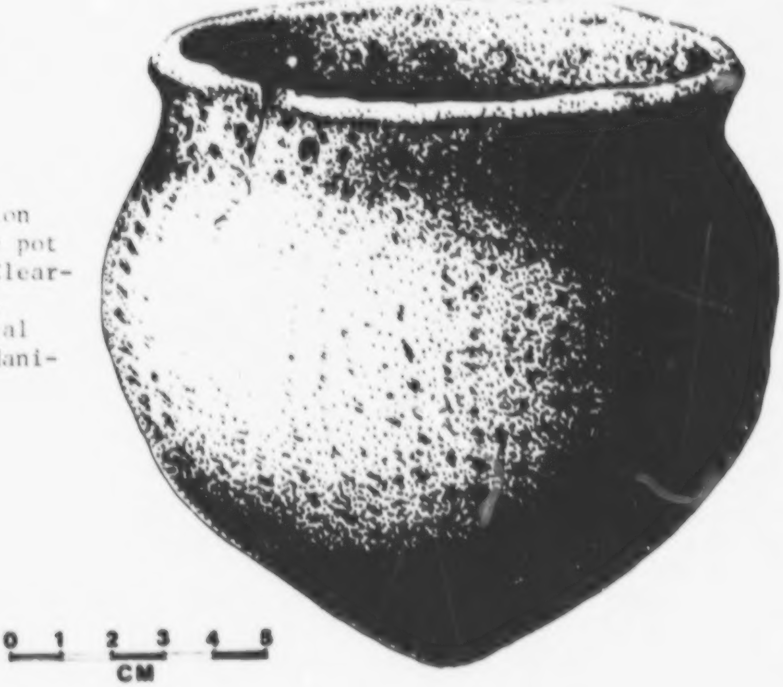
THE CLEARWATER LAKE COMPLEX (1300 - 1700 A.D.)

The Clearwater Lake Complex is characteristic of most of the forested half of Saskatchewan and all of the Saskatchewan-Nelson River system across Central Manitoba. It also appears to extend into northern Ontario.

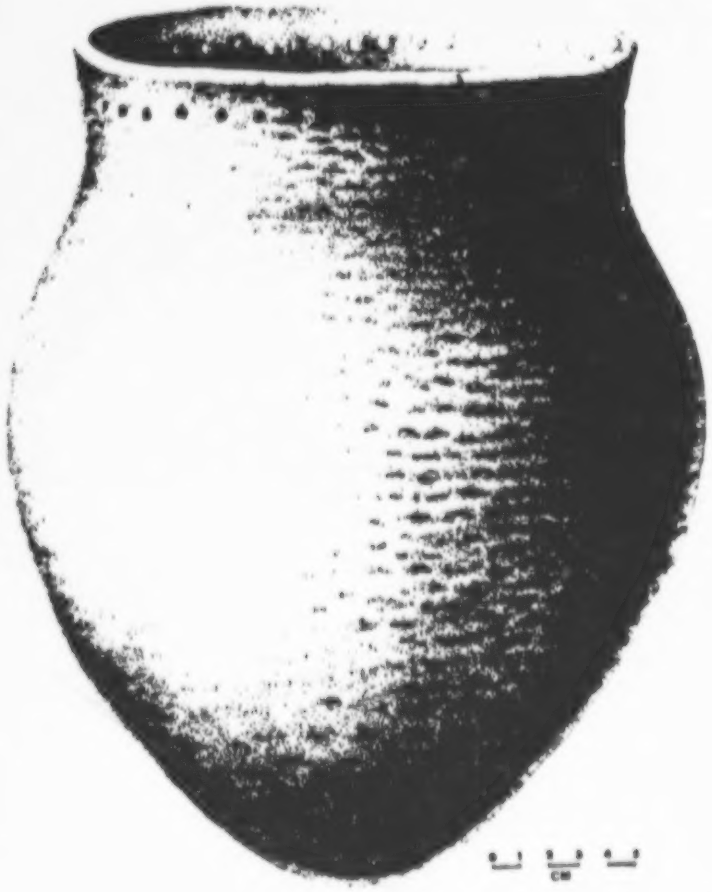


Known distribution of the Clearwater Lake Complex in Manitoba.

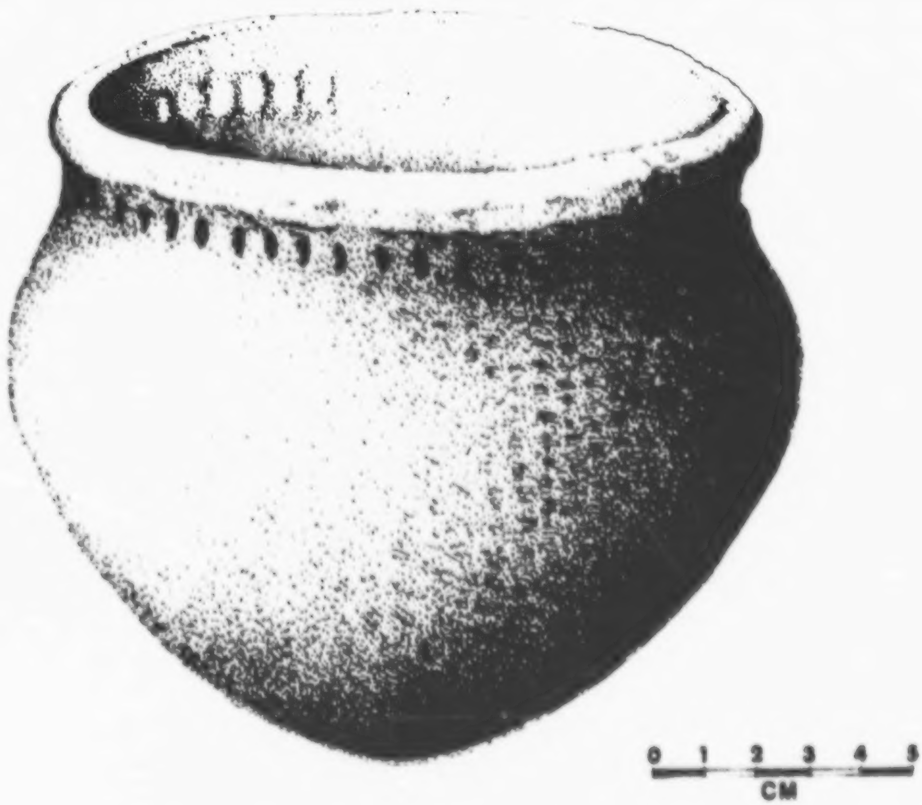
The archaeological assemblages which characterize the Clearwater Lake and Mistikwas complexes are both thought to be composed of the remnants of the technology of the prehistoric and protohistoric Crees of Saskatchewan, Manitoba and northwestern Ontario. If this is the case, it is not surprising that these archaeological phenomena are very similar,as are the lifeways represented thereby. On the basis of the tools of stone and bone materials alone, it is doubtful that the Mistikwas and Clearwater Lake complexes could be separated. However, the pottery of these two archaeological entities is quite different. The two main types of Mistikwas pottery are absent or very rare in Clearwater Lake sites. By the same token, the distinctive Clearwater Lake pottery is rarely met with in Mistikwas components.



Artist's reconstruction of a Late Prehistoric pot of a type known as "Clearwater Lake Punctate", based on archaeological findings in Central Manitoba.



Artist's reconstruction of another variant of the Clearwater Lake Punctate type of pot.



The Clearwater Lake Complex consists not only of pottery, but also side-notched projectile points, triangular projectile points, a variety of scrapers, bifaces of various shapes, gravers, chipping hammers, ground celts, net sinkers, slate abraders, split bone awls, long bone fleshers, snowshoe needles, antler flakers, notched bones, bone spatulas, bird bone tubes, shaft straighteners, bone beads, and red ochre.

In adjacent Saskatchewan, the Clearwater Lake complex is archaeologically highly visible, and sites of this phase greatly outnumber those of earlier prehistoric periods. This complex is widespread geographically and it is clearly associated with the Boreal Forest environmental zone. Although Clearwater Lake sites are found over an enormous area, the artifact assemblage is relatively homogeneous. In Saskatchewan, the non-pottery portion of the artifact assemblage includes side-notched and triangular projectile points, end scrapers, other unifaces, drills, ovoid bifaces (large and small), ground adzes and grooved mauls. The tools of organic materials include barbed harpoon points, elk antler adzes, antler flakers, shaft straighteners and long bone fleshers. The pottery consists of globular vessels with constricted necks and (usually) excurvate rims. The exteriors of these vessels are fabric-impressed and the necks or lower rims bear a single row of punctates impressed from the outside (and producing interior bosses). The lips are usually flattened and decorated by impressions or incisions).

On the Pre-Cambrian Shield, the stone materials used for tools reflect the absence of sedimentary strata in this region. Vein quartz was the most frequently used material, but since it has very poor flaking qualities, the tools which were produced were often rough. Black and green basalt-like materials were also used and these exhibit much better knapping characteristics. There appears to have been little trade between the peoples of the Churchill and Saskatchewan River regions since the Pre-Cambrian sites rarely contain "exotic" cherts and chalcedonies.

A closely related complex is present on the Churchill River of Northern Manitoba; however, this entity (best known from the Southern Indian Lake area and referred to as the "Kame Hills Complex") exhibits a number of significant differences that separate it from Clearwater Lake. It is to this complex that we now turn our attention.

THE KAME HILLS COMPLEX (850 - 1750 A.D.)

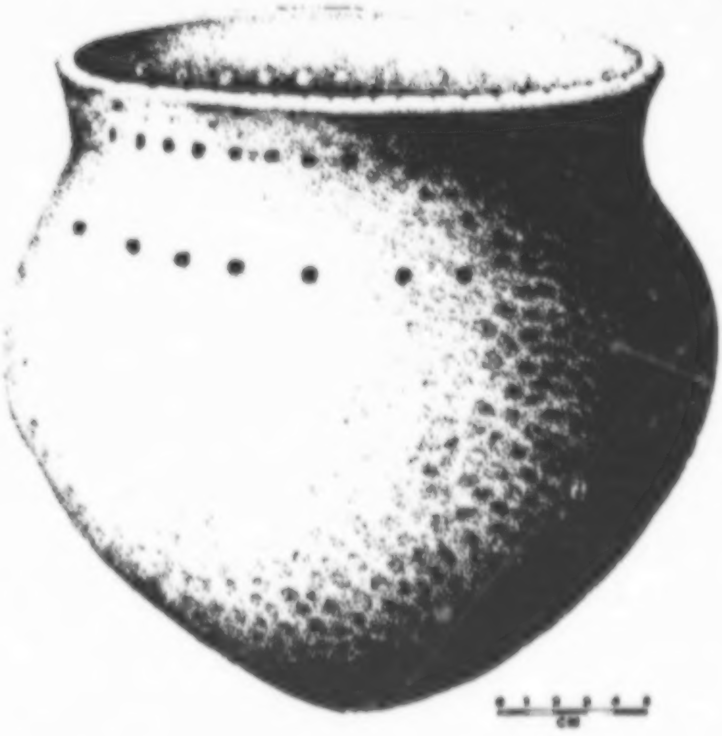
The dominant manifestation in the Southern Indian Lake region from A.D. 850 to 1750 was the Kame Hills Complex which consisted of ceramics, side- and corner-notched projectile points, triangular points, bone points, awls and beads, unilaterally-barbed antler harpoons, large and small chert scrapers, notched and unnotched bifaces, large whetstones, chipped and ground adzes, gravers, partially grooved hammerstones, and hearths. The ceramics were the most distinctive; there were pots of various shapes and sizes as well as large and small plates, bowls and cups. Ceramic pipe bowls were also made. Projectile points are small to medium in size and manufactured almost exclusively from chert. They are relatively well made with flake scars running perpendicular to the

Known distribution of the Kame Hills Complex in Manitoba.

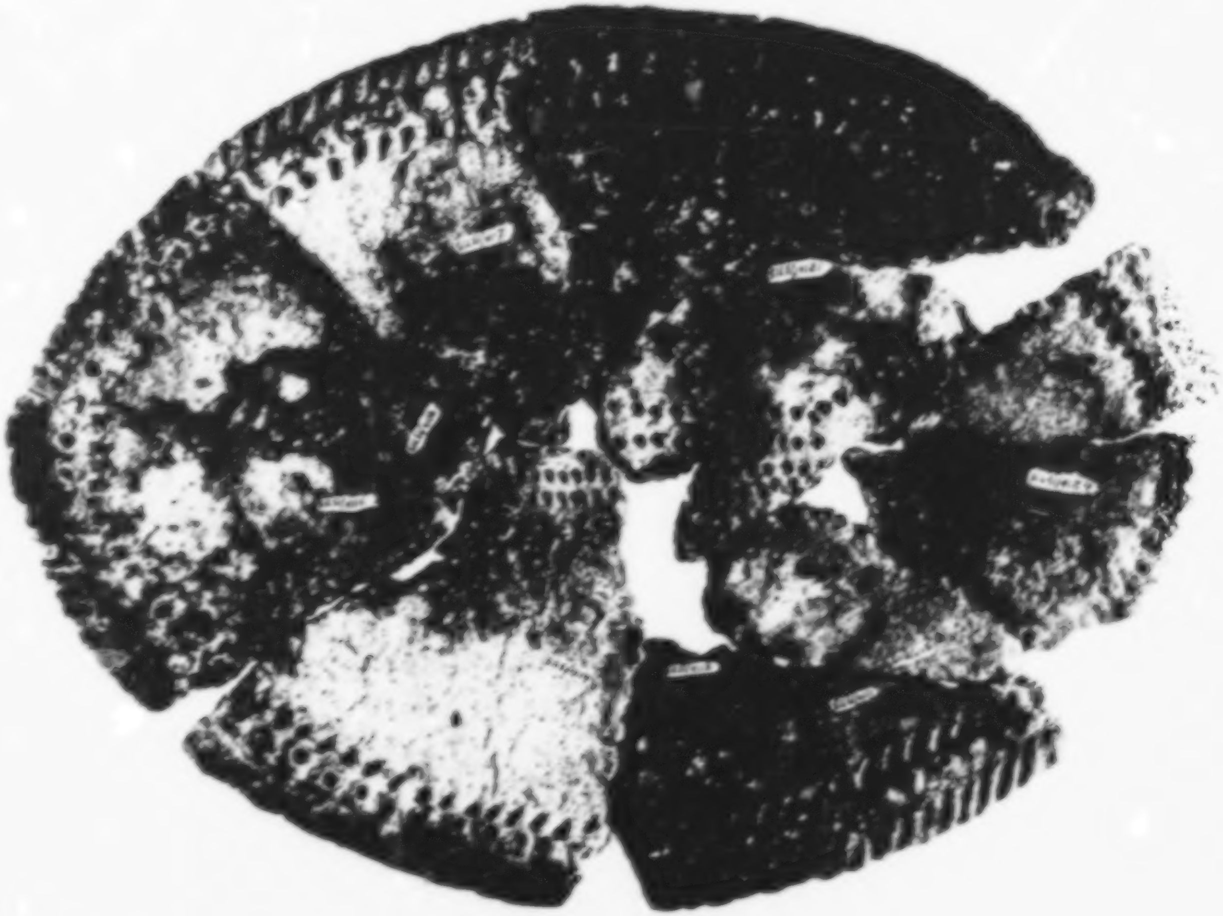
A partially reconstructed pot of the Kame Hills Complex; note the distinctive double row of punctates.

long axis of the specimen. One single-side-notched point has been found. Details of the other tools have not been established except that the majority of bifaces and scrapers were fabricated from chert. Large tools such as whetstones, adzes and hammerstones were made from sandstone, basalt and other raw materials. Chithos, or large scrapers, and wedges used in splitting wood, bone and antler may also have been part of the tool kit.

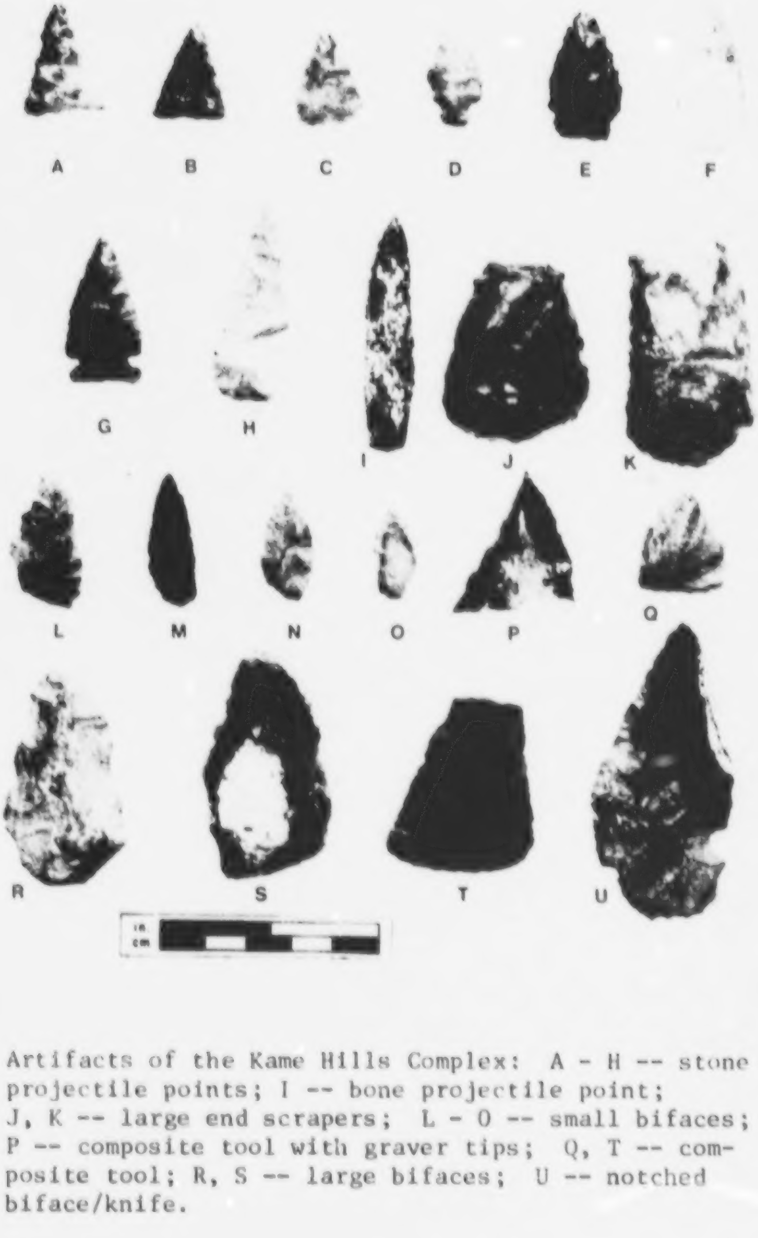
The Kame Hills Complex is closely related to the Clearwater Lake and Mistikwas complexes. The main distinguishing characteristics of Kame Hills are the ceramics: those from Southern Indian Lake are distinctive in variety of vessel form and combinations of attributes



Artist's reconstruction of a Kame Hills Complex pot, showing the two rows of punctates that set this category of pottery apart from that found in the Clearwater Lake Complex immediately to the south.



A partially reconstructed "plate" of the Kame Hills Complex. One point of view interprets these as lamps, adapted from the soapstone lamp of the Inuit. Note the small hole in the centre that may have held a wick.


A
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Artifacts of the Kame Hills Complex: A - H -- stone projectile points; I -- bone projectile point; J, K -- large end scrapers; L - O -- small bifaces; P -- composite tool with graver tips; Q, T -- composite tool; R, S -- large bifaces; U -- notched biface/knife.

when compared to samples from neighbouring regions. In addition, the Clearwater Lake Complex, which is more closely related to Kame Hills than the Mistikwas, has a large bone technology which, at present, has not been established for the Kame Hills Complex. Only a few prehistoric bone tools have been recovered, and although preservation is a factor, a vast amount of bone refuse has been recovered from several excavations but tools have been lacking.

LIFEWAYS OF THE LATE PREHISTORIC PERIOD IN CENTRAL MANITOBA

The impact of the fur trade upon European societies and their colonies in the "New World" is well documented. Through this documentation the pre-fur trade societies and social order can be contrasted to the post-fur trade societies and the changes clearly noted.

It is in the period of the fur trade, with all of its movement, change, and social upheaval, that first historical records of Native peoples are to be found. These records, written mostly by the European traders, usually portray Native peoples as small family-sized groups of hunters and trappers who were always on the move with little in the way of law, social organization, or religion. Is this an accurate assessment? If so, does it necessarily apply to the inhabitants of Central Manitoba during Late Prehistoric times?

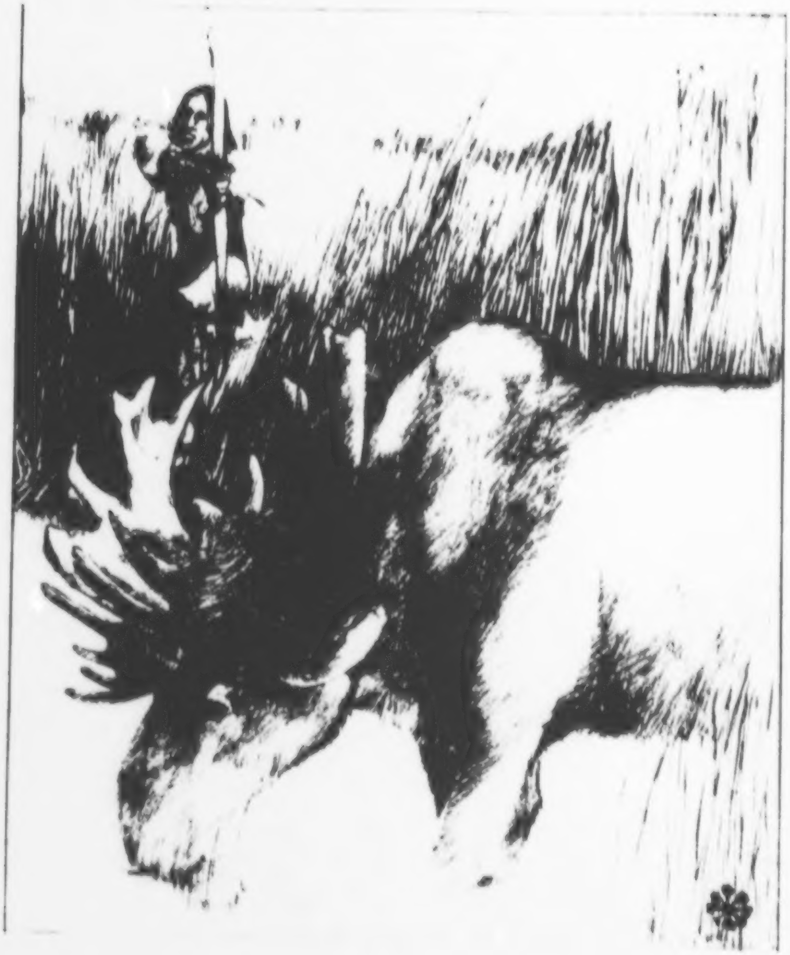
Current histories focus upon Central Manitoba peoples as hunters and trappers. The information gained from archaeological sites on Southern Indian Lake indicates that in the pre-fur trade days, fishing was a major and important economic activity. As an agricultural/industrial society, we orient our values and culture around the land and its resources. While the evidence is scant and the conclusions drawn from it are tentative, it appears that the prehistoric peoples of Central Manitoba oriented their culture and activities toward the lakes and tributary streams.

With a little reflection this fact should not be surprising but rather seen as an effective cultural adaptation to the environment. The dense stands of black spruce which cover most of the region have comparatively few plant or animal species useful to man. The viable life zone for plant diversity and animal life is in narrow bands bordering the lakes and streams and in areas recovering from forest fires. Here are found the moose, beaver, bear, hare, and ptarmigan as well as the berries, mushrooms, and edible plants.

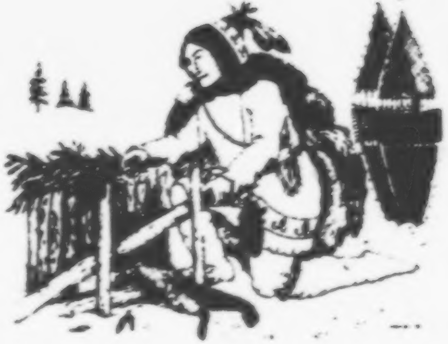
The terrain, with its dense tree cover interspersed with swamp and muskeg, is exceedingly difficult to walk through during the summer. Consequently, only those burned areas which touched upon the lakeshore where they could be approached by canoe would have been useful to the prehistoric residents of Central Manitoba. The inland burns would have been too difficult to reach for effective harvest.

While winter overland travel on snowshoes is feasible, it likely was not frequently attempted because the major land-derived winter food source, the barren ground caribou, followed the frozen streams and lakes as the herds migrated southward in the winter and northward in the spring.

Although this land offers a limited and inhospitable environment, when the plant and animal resources of lakes and streams are included, a much different life potential emerges. Streams fringed with willow, alder,



Moose hunting -- a subsistence activity of long standing in the Boreal Forest of Manitoba.



Small game as well as large was taken by the Late Prehistoric hunters and gatherers of Central Manitoba.

and poplar are habitat for beaver, muskrat, and moose. During the summer, the streams and shallow protected bays were also habitat for large flocks of ducks, geese and swans.

The plants of the shallows such as cattail, tule, and the water lily were large, readily available supplies of carbohydrates and starches. Each of these plants has potato-like tubers on their roots which can easily be pulled and roasted in earthen ovens. Similarly the seeds of the yellow water lily can be harvested in the fall and prepared for consumption by roasting.

The stems and leaves of these and other plants are excellent sources of long, strong fibers for making thread, string, and rope. Contrary to the Hollywood image of the North American Indian making all his own clothing and household items from skins, in pre-European contact days many items of apparel and general household use were woven from a variety of local fibers. Many of these items were later replaced by woven goods obtained from European trading posts.

However, for people making their living from the local environment the single most important resource was the large quantity of fish in the lake. With adequate equipment, especially during the brief summer months, fish are a readily acquired source of protein.

The size, distribution, and number of Late Prehistoric archaeological sites on Southern Indian Lake provides a measure of how successful these ancient Manitoba peoples were in utilizing the plant and animal resources of the lake and its tributary streams. These sites, and the cultural remains that they contain, confirm the lacustrine cultural orientation of these prehistoric Manitobans.

For example, around stream-mouths where each spring pickerel and northern pike come to spawn, there are clusters of archaeological sites. There is little doubt that these are vestiges of long-abandoned fishing communities where people once assembled to exploit the runs of fish in the shallow waters and narrow channels of the spawning grounds.

To date, some 400 archaeological sites relating to an undetermined number of communities have been identified within the flood zone on Southern Indian Lake. It is probable that if time permitted, as many as 5000 sites would have been found. The sheer numbers alone denotes that the lake was the homeland of many active and dynamic societies.

From excavations at widely separated points on the lake we have accumulated evidence that the communities were quite substantial. In the Kame Hills locality on the northwestern shore of Southern Indian Lake within a radius of about 1.6 km, there is a cluster of archaeological sites that range from less than an acre to more than 14 ha in size. The size and clustering of these sites indicate the Kame Hills community was comprised of many family groups.

At present it is not possible to make precise estimates of the number of community residents; however, comparison of the archaeological sites to the community of South Indian Lake suggests a community of comparable size -- about 600 to 800 people.

Though not yet conclusive, there is reason to believe that in prehistoric times equally large communities existed elsewhere on the lake. At the Sandhill Bay locality on the east-central shore of Southern Indian Lake, nine sites ranging up to 11.2 ha in size have been discovered.

Sandhill Bay is roughly 72 airline km from the Kame Hills and approximately 24 airline km north of the community of South Indian Lake where yet another cluster of archaeological sites has been recorded.

It must not be assumed that these prehistoric community centres were permanent in the sense of year-round occupation. Many environmental factors other than the spring spawning runs affected the lives of these peoples. Other resources in other localities had to be harvested to meet all the community needs. However, excavations in the Kame Hills indicate that the communities had a degree of permanence in that people regularly occupied the largest site over the past 3000 years.

So Far, no positive indications of dwellings have been found, but in the mind's eye it is easy to envision large "wickiup" type housing built from spruce poles, covered with a thick layer of moss for insulation and water-proofed with a roofing of tightly woven mats or well-tanned hides. Close to each dwelling must have been drying racks for preserving a portion of the catch. Likewise, one would expect to find high above the ground well constructed platforms for storing fishing gear and household equipment when the site was not occupied.

A study of the archaeological sites of the three localities mentioned tells us something about the social order of these ancient peoples. Though ample land was available for a single large grouping, the sites are spaced along the shore around channels and bays. It would appear that each residence unit, probably an extended family grouping, utilized a distinct area. The separation of the sites within the locality was probably a cultural mechanism to reduce social stress and strains.

The maintenance of a distance between living units to regulate the amount of direct face-to-face interaction for these highly self-reliant, individualistic people would have been a beneficial contribution to community tranquility and harmony. This is particularly useful in societies where the mechanisms for the maintenance of social order lies within the familial/kinship structure rather than in an external law-oriented structure.

Not surprisingly, the discoveries to date indicate that religious life was essentially individualistic, as evidenced by a few pictographs painted on granite bluffs in remote places (to be discussed in some detail later on). The one exception is a tiny windswept island in the middle of the lake in the Kame Hills locality. The local people, who call it "Dance Island", say this is where (before the white man came) the old timers performed their religious ceremonies. One can only speculate on what ceremonies were performed, but it does suggest that there was some organized community religious activity.

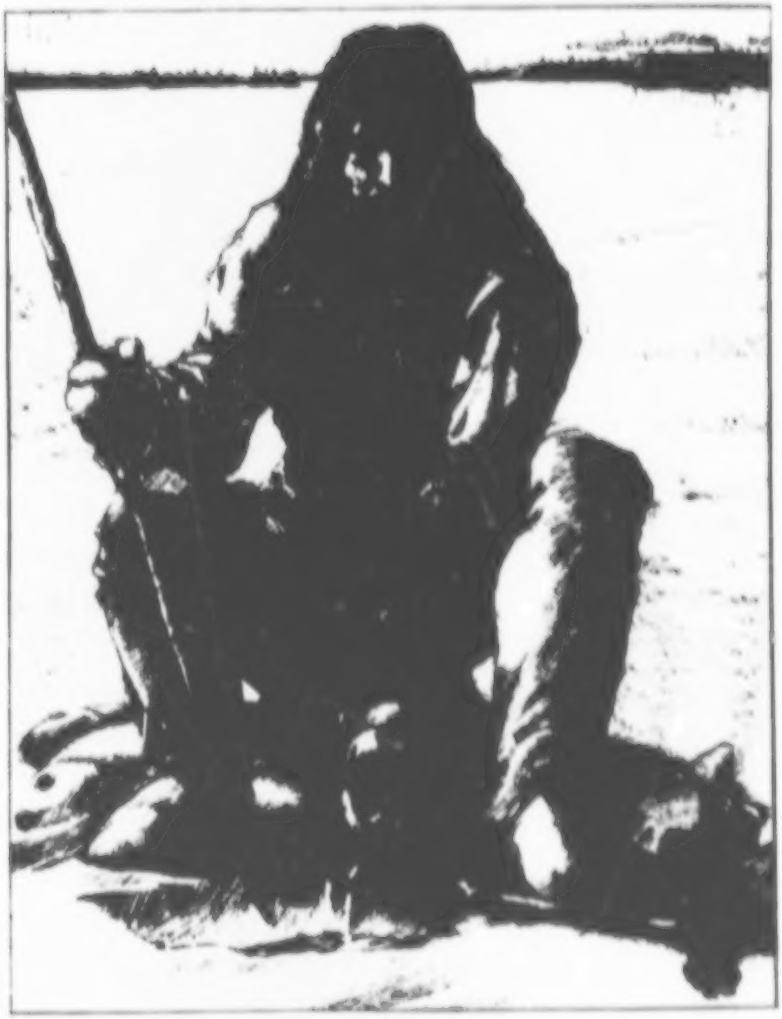
These ancient fishermen apparently had a respectable level of sophisticiation in their equipment and fishing methods. Actual evidence is scant, and precise determinations are difficult because much of the equipment was made from reeds, bark, and wood which rapidly decays due to the highly acidic nature of the northern soil. The best evidence has come from the surfaces of pottery vessels. As part of the molding process, woven fabrics were held against the moist clay, leaving impressions of fabric upon the vessel surface. As a consequence, even though the woven items themselves have long since disintegrated, a great deal has been learned about the weaving practices by studying the pottery impressions.

One of the most significant and exciting discoveries was the clear impression of a mesh net on the interior of a small pottery jar. This rather mundane little pot has provided strong evidence that these ancient peoples used gill nets. As any commercial fisherman knows, such tecnhiques allow the efficient and substantial harvest of fish, from any lake.

The utilization of gill nets by Late Prehistoric Manitobans was a major cultural development, which provided access to a large and stable food source. The surmise that gill nets were used has been strengthened by the discovery of stone net-weights in excavations in the Kame Hills and at a site in Notigi Lake, some 90 km east of Southern Indian Lake. The other key item for completing the gill net, the float, has not been found archaeologically, but discussions with older residents of Southern Indian Lake show that prior to acquiring the commercial wooden, bakelite and plastic floats, effective and serviceable floats were carved from dry spruce logs.

Some evidence also suggests that these ancient fishermen used weirs and dip nets at the mouths of tributary streams. The weirs would have channelled migrating fish through narrow openings where they could have easily been scooped out with a dip net on a pole. This method, used in conjunction with gill nets set in the deeper waters offshore, would have maximized the fishing efficiency of these early Manitobans. As a direct result, they could have had a large reliable food supply to support many leisure time activities.

From a campsite on Lake Opachuanau has come an antler harpoon point which suggests that, in addition to netting, fish were also speared. In



Ice fishing with the use of harpoons may have been one means of obtaining food during Late Prehistoric times in the Borest Forest region of Central Manitoba.

historic times northern peoples also fished at night with torches to attract the fish to the surface where they could be speared or netted. It seems reasonable that similar activities occurred in prehistoric times. So far, no evidence has been found to indicate whether these people fished during the winter when the lake was frozen over. It is likely that they did, although it would have been difficult to cut through two feet or more of lake ice with wooden or stone tools.

It remains uncertain how far back into antiquity fishing as an economically important part of Manitoba lifeways extends. However, the Notigi Lake site has been radiocarbon dated at 750 A.D. with certainty. At the Kame Hills locality, radiocarbon dates of 1200 B.C. suggest that fishing may have become important some 3000 years ago.

Of course, crucial to travel and fishing in the cold northern lakes were watercraft - probably the canoe. At present, evidence of boat building is inferential. For example, the Wapisu Lake site was used in early historic times by people from Nelson House as a special place for building canoes. Large quantities of stone and woodworking tools recovered during excavation show that woodworking was the predominant activity on the site over the past 2000 years. It seems likely that canoe building was a significant part of this activity.

The interpretation that the Southern Indian Lake archaeological sites are remnants of prehistoric fishing communities is strengthened by the recovery of large quantities of woodworking tools. Successful fishing would require a great deal of preparatory activity. Reeds and barks would have to be collected and taken through several stages of preparation to obtain suitable fibers for spinning cords and weaving nets. Cutting and shredding fibers would produce wear on stone tools essentially identical to the tools used for cutting and shaping wooden net floats. Other woodworking tools would have been needed in the construction of canoes. Add to these the tools used in the manufacture of dwellings and household items and it is easy to see why so many woodworking-related tools have been found.

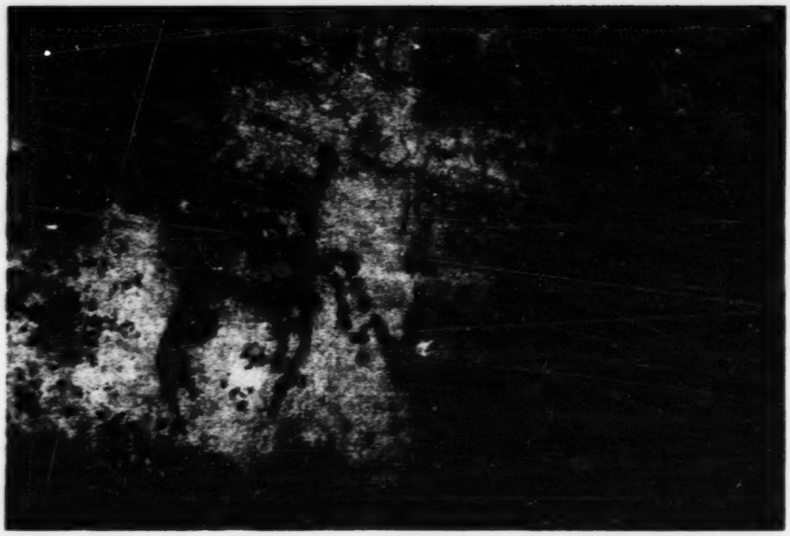
These stone tools also tell us that the ancient Southern Indian Lake fishermen were not isolated from the mainstream of North American cultural development. The basalts of the larger wood chisels or celts came from deposits on the Hudson Bay Lowlands. Whether the Southern Indian Lakers travelled to the Arctic coast or whether they traded through intermediaries with peoples living on the coast remains to be learned. Other stone tools found at sites on Southern Indian Lake indicate this trade-communication network also spread southward at least as far as the flint quarries on the Knife River in what is now North Dakota. It indicates that travel routes and communication channels had been established and used regularly centuries before the arrival of European traders. The fur trade with Europeans was in fact merely a shift in emphasis, rather than the creation of a trading system.

Though a great deal remains to be learned about the ancient fishermen of Central Manitoba it is now clear that these bygone Manitoba peoples had made some excellent cultural adaptations to a harsh and limiting environment. The success of these societies lay in their knowledge and capabilities to exploit the resources of the lake rather than the land. Materials recovered show that the people of these societies had a broad geographic knowledge, and contacts which gave them interplay with the mainstream of North American cultural development. Their travels would have brought them into contact with such diverse groups as the Eskimo of the Arctic coast and residents of the great fortified villages that once stood in the Missouri River Valley. What new ideas they obtained and how these ideas were shaped to northern conditions and made a part of the ongoing cultural evolution in the North remains to be discovered. When they are, a better understanding of our northern cultural heritage will result.

PICTOGRAPHS

Mention was made above of the rock paintings, or "pictographs" found in Central Manitoba. Although some of these were obviously created during historic times, it would seem that they represent a tradition that extends well back into the Late Prehistoric Period. It is quite likely that many, if not all, of the prehistoric examples correlate with the Clearwater Lake Complex. It is generally believed among the Natives of the Norway House district that the paintings were made of ochre, an iron oxide which ranges in colour from light orange-red to deep brown rust, and occurs naturally in concentrated deposits. The Cree call this substance wanaman. One informant recalled that an old man had told him that the ochre was mixed with sometning from inside the sturgeon to make paint.

The question of who executed the rock paintings is basic to the study of pictography. The determination of who the artists were rests on the answers to two main problems. The first is that of age, and the second is that of presence; that is, who was in the area and when. This latter question, unfortunately, precipitates us into the problem of Boreal



Two views of a panel of rock paintings in Central Manitoba, depicting a variety of themes and subject matter.

Forest migrations, an area of research that has not yet been dealt with satisfactorily.

No archaeological material has yet been found in definite association with rock painting sites. Thus, archaeology can provide very little in the way of clues to the ethnic identity of the artists. Hopefully, prehistorians will soon solve the problems of migrations and leave the pictographer with only the question of age to deal with.

There are some clues that hint towards ethnographic identification, but they do not all point in the same direction. For example, "most Ojibwa and Cree are repulsed by snakes. This revulsion and fear may account for a lack of turtle, and snake pictographs".[1] The implication is that the paintings were done by Algonkian-speaking, either Ojibwa or Cree, artists. However, turtles and snakes appear to be very popular as subjects for "petroforms" (see below), which have been attributed to the Ojibwa. Another author compares rock paintings with symbols occurring on the birchbark scrolls of the Ojibwa "midewiwin" or "Grand Medicine Society" and concludes that "these identifications lend support to the theory that these rock paintings are of generalized Ojibwa inspiration."[2] Still others are of the opinion that the rock paintings should be assigned to the Ojibwa (or "proto-Ojibwa"). Another Algonkian group that may be responsible for the paintings are the Cree. To complicate matters even more, there is "... the possible association of the Clearwater River sites [in Saskatchewan] with the Chipewyans ...".[3]

To sum up, the rock paintings found throughout the Canadian Shield have tentatively been assigned by various researchers to the

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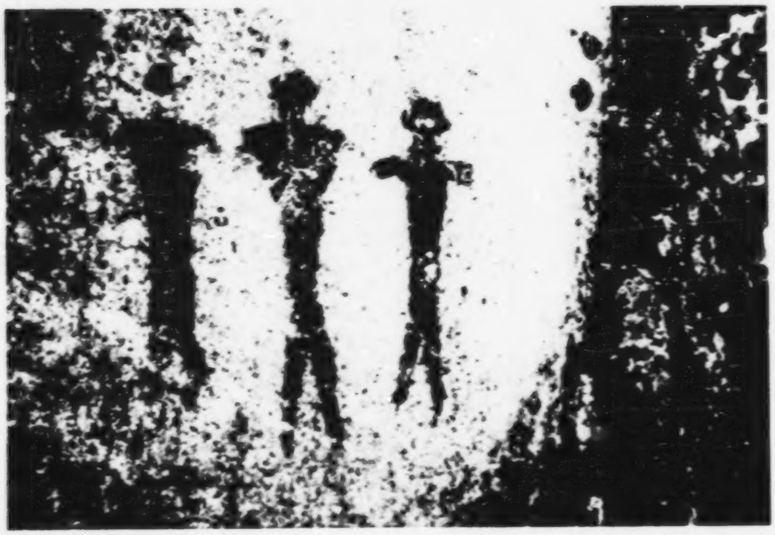
[1] Elias and Steinbring (1967:11)

[2] Lipsett (1970:189)

[3] Jones (1969:20)



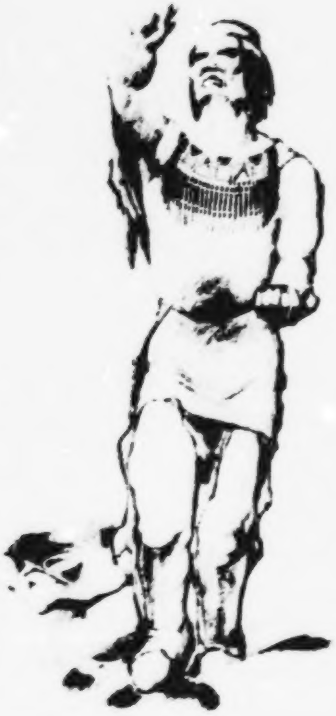
Two ways of depicting the human form as shown in rock paintings in Central Manitoba.

Algonkian-speaking Ojibwa and/or Cree and the Athabaskan-speaking Chipewyans, with the Ojibwa and Cree being favoured.

Our present level of knowledge only allows us to speculate when the question of why arises in regard to the purposes behind rock painting sites. We have very little evidence that applies to the actual activity of painting the symbols or the purposes behind them. One man stated that the paintings were part of love magic. If an old man wanted a young girl he would obtain some part of her (hair for example) and take it to his tent. There he would speak to the girl as if she were present. Then he would sleep and dream of an animal whose spirit would help him. As part of the magic he would go out and paint a picture of the animal on a rock face. Another informant reported that some symbols were painted as part of the process of bestowing a special or magical name on a child. These statements may explain some of the paintings found throughout the Canadian Shield but they cannot account for all of them.

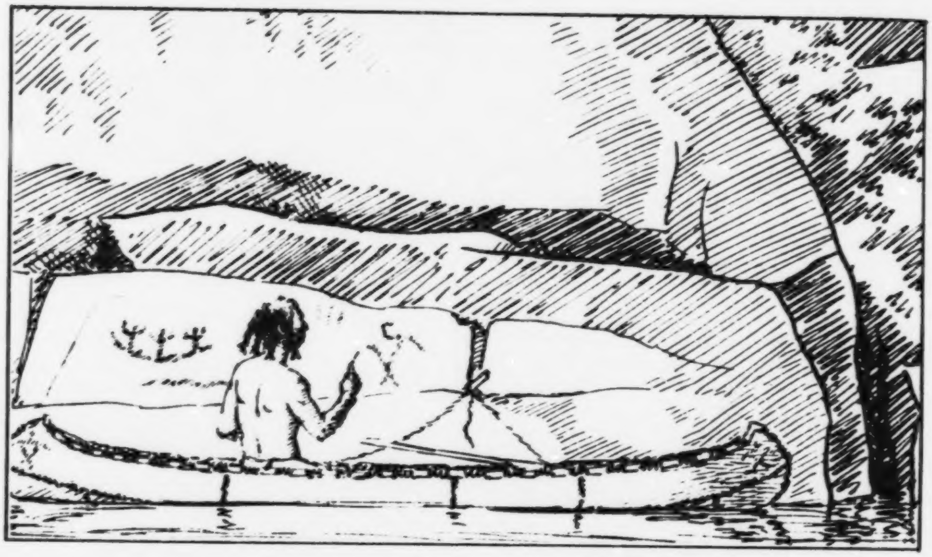
Turning to the use of the paintings, we have more acceptable evidence from recent times (again, we can only guess at the uses made of the paintings in the past). Offerings of tobacco, clothing, and ammunition have been found at rock painting sites in the Great Lakes region. Some paintings appear to relate the use of paintings for curing practices by the Ojibwa. Offerings of tobacco would be placed in the water by a painting and the power to cure or heal would be sought. The use that Ojibwa shamans made of some Manitoba paintings rests with the fact that they are so faint or are so situated that they can only be seen in direct sunlight. If a shaman knew of this, and they probably did, he could cause a painting to "appear" at a distance, in front of witnesses, either for professional purposes or, perhaps, personal agrandizement.

Rock art painters of the Boreal Forest region, Central Manitoba.

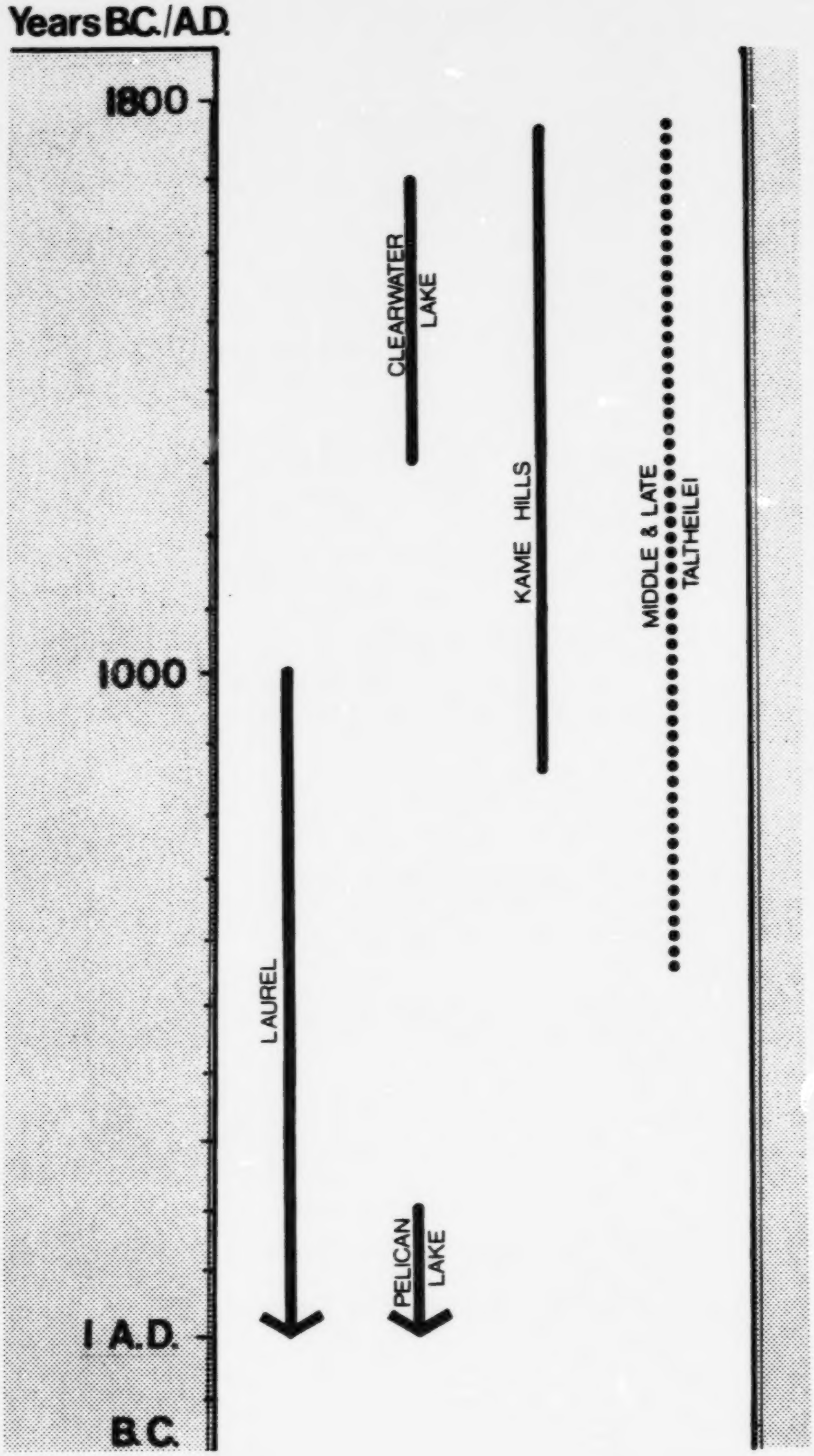


Finally, it has been stated that the paintings were used as part of hunting magic. The pockmarks in the painted surface of the Bloodvein Moose are the result of bullets, and it is assumed that recent hunters, going out after moose, would shoot the painting as a form of imitative magic: if their shots hit the painting, they would be assured of shooting a moose.

Some Cree informants have said that the paintings were made a long time ago before the existence of the Cree people, in most cases the paintings being associated with the memekwesiwak -- small beings residing in the rocks near the water. The red figures marked the place where the memekwesiwak live: and a red cross indicated that the memekwesiwak had left a place. Several informants thought that the paintings predicted the future. The ability to prophesy the future and to communicate it through the medium of rock paintings was attributed by one person to the memekwesiwak.



By virtue of their location, it is clear that most pictographs were painted while the artist was seated in a canoe. In some instances, a scaffolding of some sort must have been used because the paintings are situated high above water level.



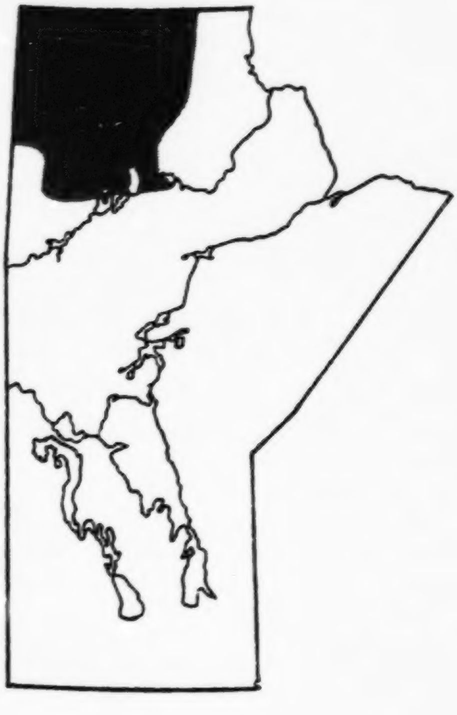
Cultural chronology for Central Manitoba for the Late Prehistoric Period, 1 A.D. - 1700 A.D. Evidence for the Taltheilei Tradition is limited and confined to the extreme northern periphery of the region.

NORTHERN MANITOBA

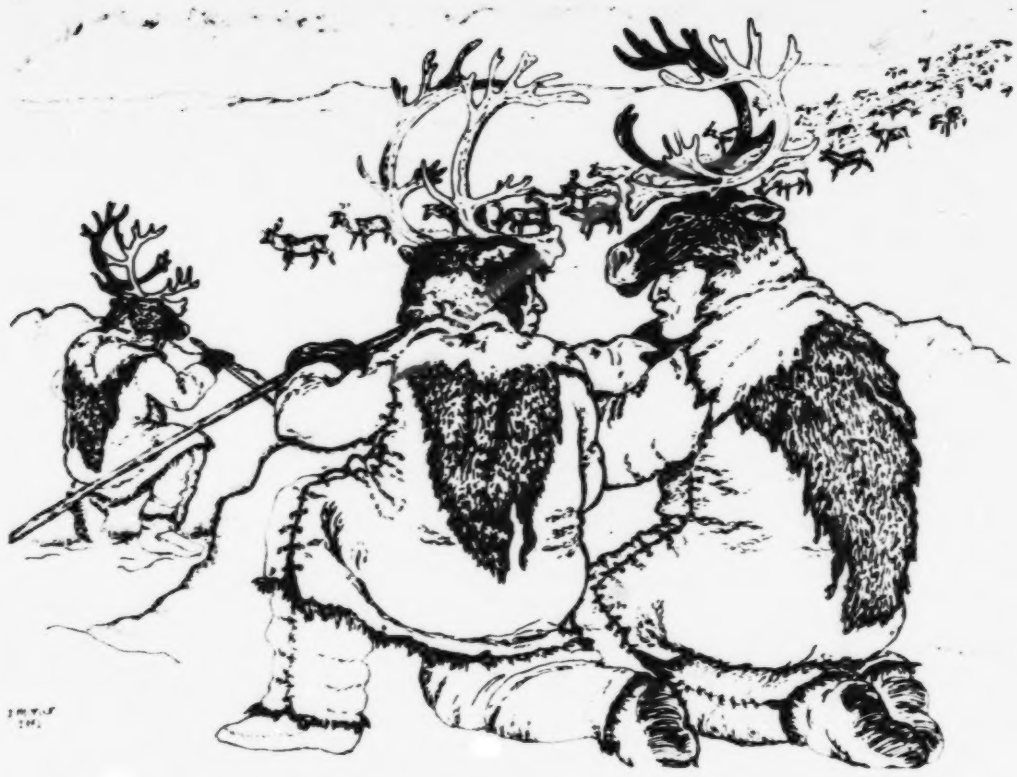
THE TALTHEILEI TRADITION (1 A.D. - 1700 A.D.)

Unlike many areas of North America, the prehistoric record of the Northern Transition Zone is one of relatively moderate change during this 2500 year period. The Taltheilei Tradition represents a long, continuous period of conservatism and stability by the ancestors of the Athapaskans. A land of unpredictable resources (Which migration route will the caribou follow in any given year?) and a time-tested subsistence strategy made cultural experimentation unattractive.

The earliest Taltheilei complex spread rapidly across the Barrens from the West, probably from somewhere in central or northern British



Known distribution of the Early Taltheilei Complex in Manitoba.

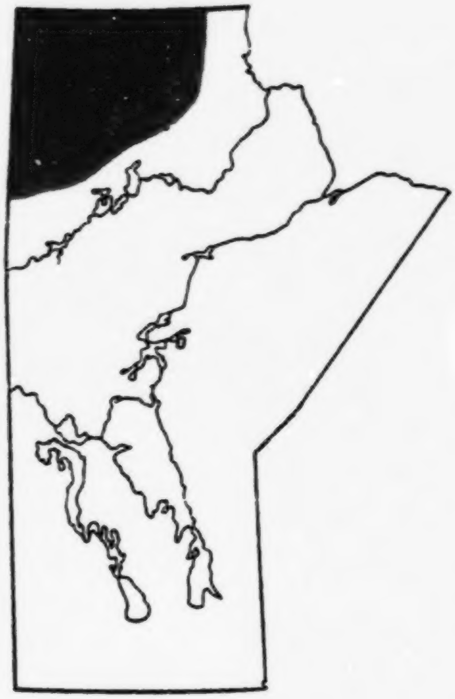


Caribou hunting was a prime mode of obtaining food among the Athapaskan-speaking people of the Taltheilei Culture.

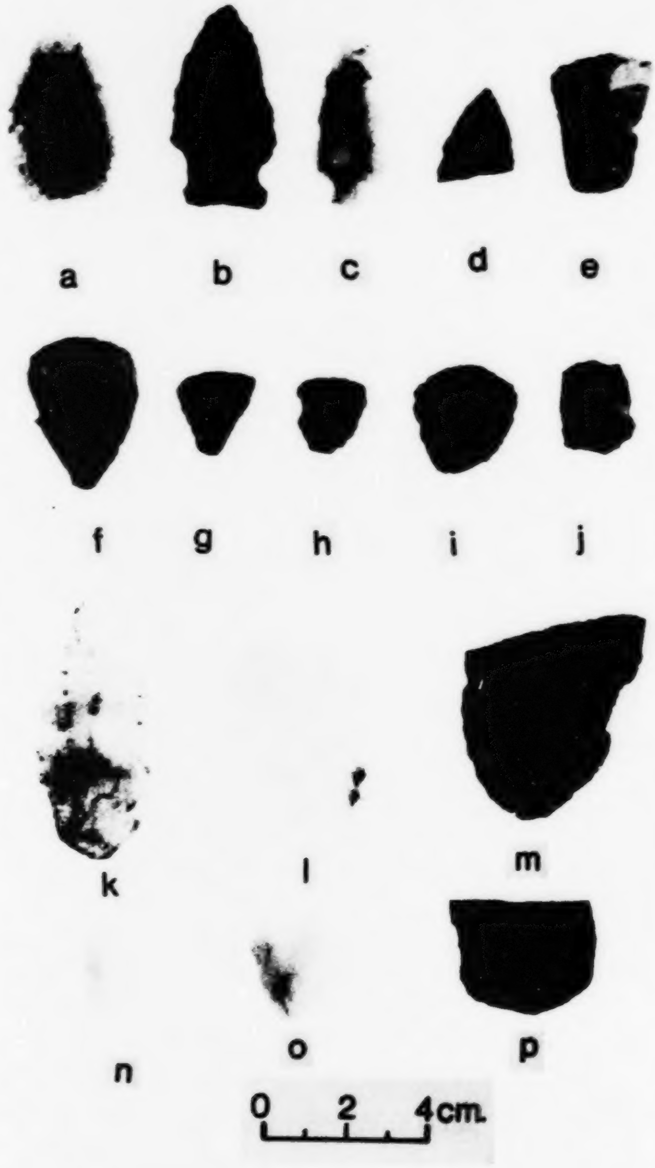
Columbia. These early ancestors of the Athapaskans may have moved into an area that was relatively empty, as the Inuit either returned northward and coastward or else merged with small Indian populations who also returned from the Boreal Forest. Linguistic evidence indicates relatively recent divisions into modern tribal groups (within the last 1000 years); yet, there is a persistence of earlier traits in the new tool kits.

The Native peoples developed a nomadic strategy geared primarily to the migrations of the caribou and to fluctuations in the fish population in the numerous lakes and rivers. They developed a single basic successful adaptation which was stable and ecologically balanced.

By keeping their needs and expectations modest, these were readily satisfied with the available technological developments. While their quality of life may have been low by European standards, with the concern for conspicuous consumption, their critical material wants were satisfied and there no doubt would have been considerable leisure time. They had not developed complex social and political systems, so they did not have to create artificial demands of prestige items nor produce status items to distinguish between upper and lower social classes. Since they were self-sufficient, they did not have to develop elaborate trade networks, centres and alliances, nor systematically organize warfare to maintain access to



Known distribution of the Late Taltheilei Complex in Manitoba.


a
b
c
d
e
f
g
h
i
j
k
l
m
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o
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2
4cm.

Artifacts of the Taltheilei Tradition from Northern Manitoba: a-d, n -- whole and fragmentary projectile points; e-j, o -- end scrapers, k-m -- whole and fragmentary bifaces.

non-local raw materials. Simple subsistence needs were accompanied by independence, lack of tension, and fulfillment.

During the development of the Taltheilei Tradition, the Athapaskans produced all of the items they needed to sustain their way of life. The only perishable materials to survive archaeologically were occasional fragments of bone of animals such as caribou and beaver that represented food remains. No pottery survived because the Athapaskans were the only groups between the Rockies and the Maritimes that did not make and use pottery prior to European contact. Only stone tools survived, but these reveal a great deal about various activities.

As was the case elsewhere, fragments of local stone were used to make tools. Some sites were "quarries" where particularly suitable rock was collected. Other sites were chipping stations where cobbles and flakes were reduced and modified by percussion and pressure flaking, using hammer stones, into finished implements.

Bone, antler, and wood were worked into tools using adzes, wedges, gravers, and whetstones. The adzes were used to chop and trim the raw materials into rough forms. Wedges and gravers were used to split and incise the pieces into smaller preforms (roughed-out blanks of approximately the right size). Whetstones were used to smooth the rough edges.

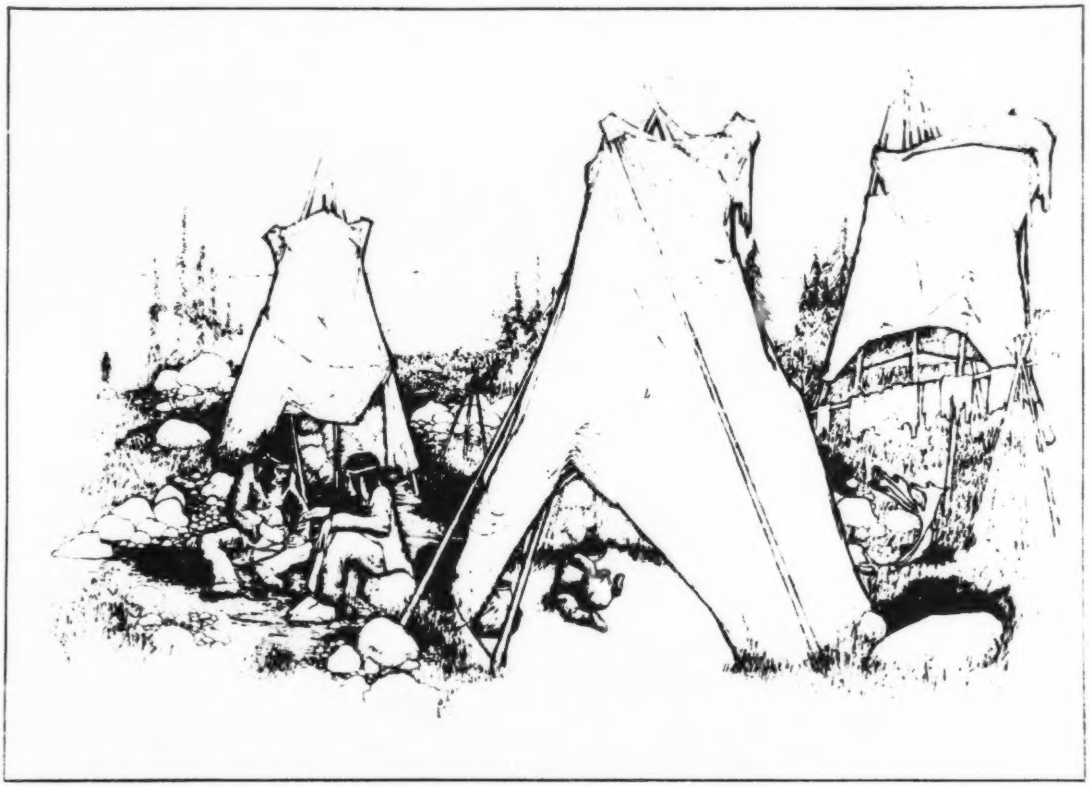
Stone points were used as spear tips and arrow points. Bone and antler points were used after A.D. 1000. Knives consisted of points hafted in handles and unhafted bifaces. Simple flakes with a sharp edge, some of which were modified slightly, also made effective knives.

Scrapers and "chithos" were used to prepare hides for tanning and for other cleaning activities. Awls were used to sew the hides together. These hides were used to make tents, containers, clothing, and bedding.

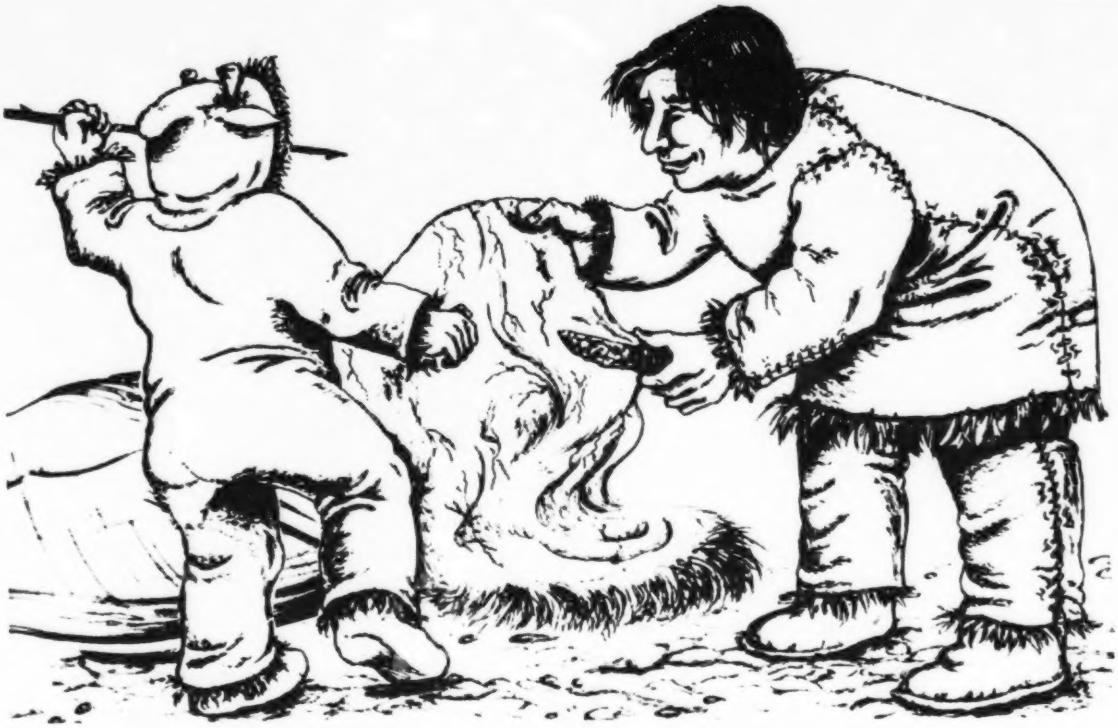
Wood was undoubtedly worked into a variety of tools. Scrapers, wedges and gravers were used to modify the material.

Sites were represented by scattered debris and tent rings. Although there were anywhere from 2 to 8 tent rings, the most common number was four to five. Since each tent likely held an "extended family" group of eight to 10 people, many of the settlements consisted of small bands of about 32-50 people.

Sites were located on lakeshores, islands, and eskers, or along rivers near rapids. The lake and rapids sites were near good fishing

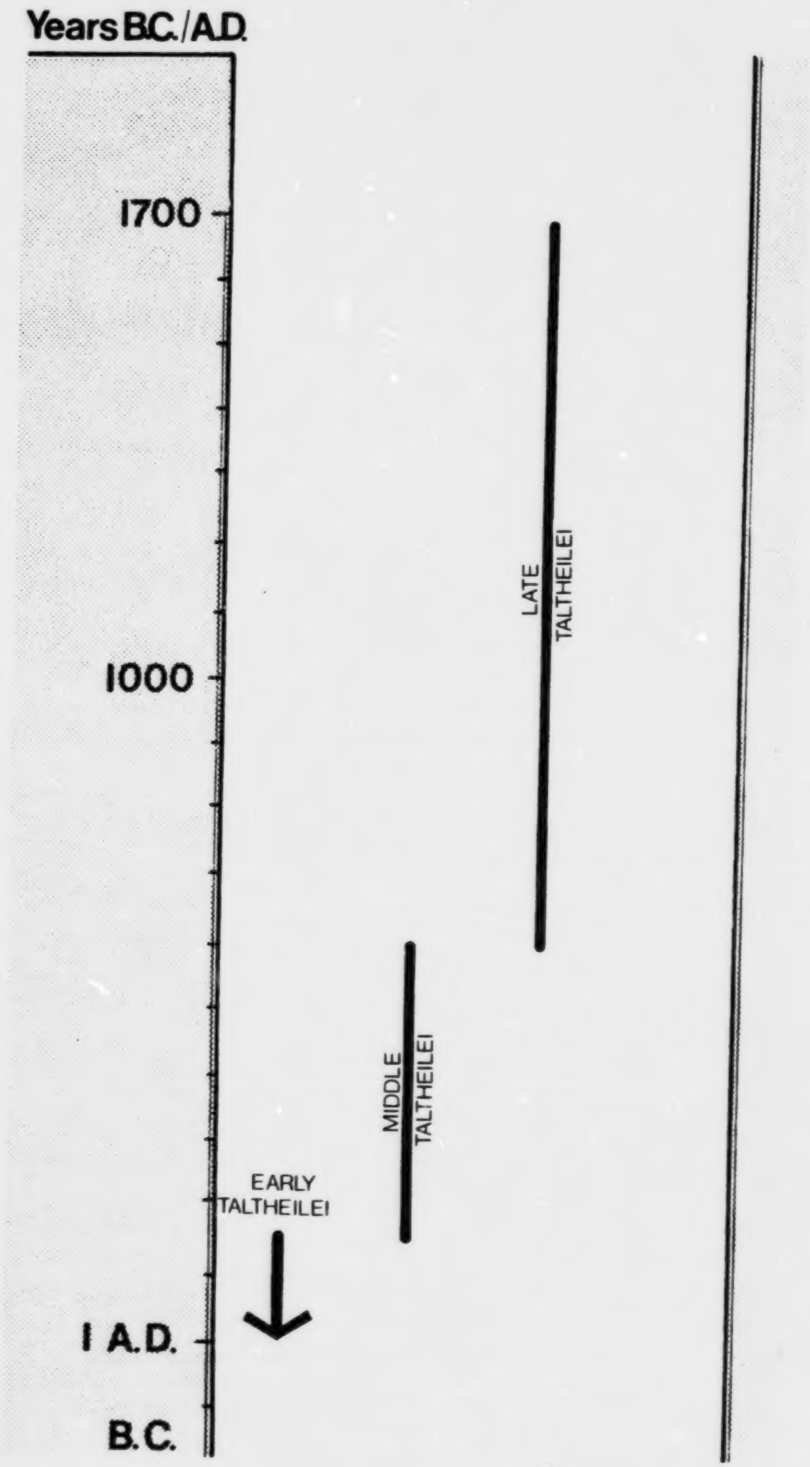


Artist's conception of a Late Taltheilei campsite, ca. 1175 A.D.



Among societies such as that of the Taltheilei people, children gained a familiarity with their future roles in life by observing their elders and imitating their actions.

locations. The sites on the high eskers were often near caribou crossings. Eskers provide many advantages; they are sandy and comfortable to camp on, they are open and less bothered by insects such as black flies; they are high and provide good lookouts for watching game, and they are often the main source of birch trees for bark and wood and for berries. Even many of the island sites are situated in places that are particularly suitable for watching caribou movements. The suitability of these sites and the long-term pattern of adaptations referred to above is reflected in the tendency for locations of historic sites to appear at locations of prehistoric camps as well.



Cultural chronology of Northern Manitoba during the Late Prehistoric Period, 1 A.D. - 1700 A.D.

SUMMARY

People of Native ancestry have been living in Manitoba for the past 12,000 years. This immense span of cultural history is subdivided by archaeologists into three major periods -- Early, Middle, and Late Prehistoric.

Man first colonized Southern Manitoba between 11,000 and 12,000 years ago when the ice sheets melted back from the countryside west of the Manitoba Escarpment and the landscape became capable of supporting plants and animals. This human population was small at the outset, because the vegetation which invaded the newly-exposed land surface comprised a spruce-dominated forest that failed to attract in any numbers the big-game animals -- mammoths, big-horned bison, camels, and horses -- that these early people favoured as sources of food. By about 8000 B.C., however, the climate became warmer and drier, and the forest was replaced by grassland. This change-over attracted bison in large numbers, which in turn drew more people into the southwestern Manitoba region than had ever been here before. Because the bison were herd animals, it was possible to stampede large numbers of them over cliffs and into ravines, where many scores of them could be slaughtered at a time. These in-migrations of animals and people were no doubt stimulated, in part, by periodic droughts on the High Plains to the south and southwest.

Throughout most of the Early Prehistoric Period, the low country between the Escarpment and the Shield was inundated by Lake Agassiz and the Shield region itself was buried beneath the ice sheet. By 5000 B.C., however, the glacier had entirely disappeared from Manitoba and Lake Agassiz had drained away. In the course of its drainage, the southern fringes of Lake Agassiz were skirted by eastward-moving bands of Paleo-Indians whose descendants eventually adapted themselves to life in the Boreal Forest.

The Middle Prehistoric Period witnessed the introduction of a variety of cultures into Manitoba from several directions -- Logan Creek from the south; Old Copper from the southeast; Oxbow, McKean, and Pelican Lake from the south and west; and Shield Archaic, Pre-Dorset, Dorset, and Taltheilei from the northwest. Altogether, they represent human adaptation to virtually every environment found in Manitoba: coastal, inland, grassland, parkland, forest, northern transition, tundra, riverine, lakeshore, upland, lowland. Furthermore, some cultures cut across several major biomes, rather than being confined to any particular one. Thus, indications of the Oxbow, McKean, Pelican Lake complexes, generally considered to represent Plains adaptations, are found well into the Boreal Forest, while Pre-Dorset is distributed over the Tundra, Northern Transition Zone and on into the Boreal Forest. This tendency for complexes to span two or more life zones represents either exploitation of different environments on a seasonal basis as part of an established and fairly stable lifeway, or else the abandonment of one life zone and readaptation to another over the long term. It could also reflect the diffusion of ideas and traits across social and ecological boundaries and their adoption, if only on a limited basis, by populations living at some distance from the core area of occurrence.

Some of the more conspicuous innovations during the Middle Prehistoric Period include the "micro-tool" technology of the Pre-Dorset Culture, the development of metal-working by the Old Copper people (the origins of this technology may actually extend back to the closing centuries of the Paleo-Indian Period), and the broadening of the economy from the big-game hunting emphasis of the Early Prehistoric Period to the inclusion of fishing and increased small-game exploitation during the Middle period, particularly in the Boreal Forest.

The Middle Prehistoric Period drew to a close on the Grasslands and Parklands around the time of Christ with the introduction of three major innovations -- pottery-making, burial mounds and the bow and arrow. It was also during Late Prehistoric times that the grassland-and parkland-dwellers improved upon their means of hunting bison. This took the form of the famous "pound" -- a sort of corral or brush enclosure into which herds of bison were driven and easily slaughtered. This technique was an elaboration or development upon the stampede and "jump" which was originally perfected back in Early Prehistoric times. Trade became very important to the people of Southern Manitoba, who "imported" such exotic materials as pipestone ("catlinite") from Minnesota, shell from the Gulf of Mexico, jade from British Columbia, and volcanic glass ("obsidian") from Wyoming. Native copper was brought from the Lake Superior region, and was used mainly to fashion ornaments with which to decorate the body. We now see considerable evidence of the grinding and polishing of stone to make axes and adzes, in addition to the traditional stone flaking techniques of antiquity. Trait persistence from Middle to Lake Prehistoric times appears to be represented in the Extended McKean-Oxbow Complex.

The art of manufacturing pottery was introduced into the Shield country and culminated in the distinctive ceramic "plates" of Southern

Indian Lake -- one of the few classes of prehistoric artifacts that appear to be indigenous to Manitoba. One very major characteristic of Late Prehistoric culture in the Shield is the rock painting, or "pictograph", created by the application of red and orange mineral pigments to the faces of rock outcrops and cliffs. This artistic tradition is expressed in a variety of forms dominated by human and animal figures. In the Shield area of southeastern Manitoba centring upon the Whiteshell, the Indians created the "boulder mosaics", or "petroforms" -- arrangements of boulders which depict circles, ellipses, lines and the forms of animals (notably turtles and snakes), and men. Some of the figures were oriented in such a way as to coincide with the rising of the sun, the moon, and possibly, other heavenly bodies at particular times of the year. Astronomical observations were made in accordance with the placement of these boulder alignments.

In Northern Manitoba, pottery-making apparently did not "catch on" among the caribou hunters and fishermen of the Northern Transition Zone. There is little or no evidence of occupation of the coast of Hudson Bay by Inuit during the Late Prehistoric Period, although the ceramic "plates" of Southern Indian Lake, considered by some to be an adaptation of the Inuit soapstone lamp, and the obvious presence of Dorset people elsewhere in the Canadian Arctic, lead us to believe that such evidence will some day be found.

EPILOGUE

In the course of drawing together, up-dating and organizing the material for this book, some liberties were necessarily taken by the editor. For instance, the terminology used in the headings for the various cultures is not necessarily that used by the original authors, nor are the associated time frames which are based, in some instances, on a consideration of several sources. The maps showing the distribution of the complexes, as well as the accompanying captions, were also prepared by the editor, and not the authors of those sections with which they are associated. The illustrations appearing throughout the book and many of the captions that accompany them were, again, selected/ written by the editor. The chronologies that are included at the end of each major section were developed by myself. In sum, all of these initiatives are my responsibility, and any shortcomings they contain are not to be attributed to the writers of the textual information with which they are associated.

L.F.P.

APPENDIX A

SOURCES OF TEXTUAL MATERIAL

The material comprising the various portions of this book has been drawn from the following sources (for particulars, see "Bibliography"):

Section/Topic	Page Number(s)	Sources
Grasslands, Aspen Parklands, The Boreal Forest, The Northern Transition Zone, Tundra	8-17	Shay (1976)
North American Natives: The Beginning; Environment and Early Man in Manitoba; The Clovis Culture (10,000-9000 B.C.); The Lindenmeier Culture (9000-8000 B.C.)	20-26	Pettipas (1975)
The Plano Pattern (8000-4500 B.C.)	26-34	Pettipas and Buchner (1982)
	34-42	Buchner (1981)
The "Altithermal"	47-51	Buchner (1980a)
The Logan Creek Culture (4500-500 B.C.)	51-54	Buchner (1980a)
The Oxbow Culture (3300 B.C.-1000 A.D.)	54-56	Miller (1981)
	56-61	Buchner (1979)
The McKean Culture (3000-100 B.C.)	61-65	Syms (1970)
	62	Buchner (1979)
The Old Copper Culture (3000-1000 B.C.)	66-73	Dyck (1980)
	66	Mallot (n.d.a)
	Caption to lower illustration, p. 72	Steinbring (1976)
The Pelican Lake Culture (1000 B.C.-1 A.D.)	74	Joyes (1970)

Section/Topic	Page Number(s)	Sources
The Shield Archaic Culture (2200 B.C.-1 A.D.)	77-78	Pettipas (n.d.a)
The Pelican Lake Culture (500 B.C.-1 A.D.)	78	Dickson (1980)
The Pre-Dorset Culture (1500-500 B.C.)	82 84-92	Dickson (1977, 1980) Nash (1970)
The Early Taltheilei Culture (500 B.C.- 1 A.D.)	84	Pettipas (n.d.b)
The Dorset Culture (900 B.C.-1000 A.D.)	92-96 96-98	Syms (n.d.c) Nash (1970)
The Besant Culture (1 A.D.-800 A.D.)	103	Fardoe (1977)
The Sonota Culture (250-800 A.D.)	103, 108	Fardoe (1977)
The Avonlea Culture (400-700 A.D.)	108-110	Fardoe (1977)
Southwestern Manitoba Prehistory ca. 800 A.D.	110, 111, 119	Syms (1977)
Linear Mounds	116, 117	Nash (1973) Wedel (1960)
The Blackduck Culture (800-1700 A.D.)	120-123 123-130 Caption to map, p. 124	Carmichael (1979) Syms (n.d.a) Buchner (1979)
Southwestern Manitoba, Late Prehistoric Period	130-132	Fardoe (1977)
Delta Marsh, Late Prehistoric Period	132-134	Shay (1971)
The Mistikwas Culture (850-1700 A.D.)	134-141	Mallot (n.d.b)
Petroforms	141-145	Buchner (n.d.a)
The Extended McKean-Oxbow Culture (1 A.D.-900 A.D.)	145-147	Haug (1976)

Section/Topic	Page Number(s)	Sources
The Laurel Culture (500 B.C.-1000 A.D.)	153-161	Tisdale (n.d.)
The Clearwater Complex (1300-1700 A.D.)	161-165	Mayer (1978)
The Kame Hills Complex (850-1750 A.D.)	166-171 Caption to illustration, p. 169	Dickson (1980) Wood & Wasnick (1976)
Late Prehistoric Lifeways in Central Manitoba	171-183	Mallory (1975)
Pictographs	183-189 183, 189	Whelan (1974) Jones & Jones (1978)
The Taltheilei Tradition (1 A.D.-1600 A.D.)	191-197	Syms (n.d.b)

APPENDIX B

Most of the original source material used in this book contains the names of writers whose works were cited or consulted. In order to provide an uninterrupted text, these references were deleted here. In accordance with proper scholarly protocol, however, these references must be identified. It is the purpose here to identify those writers and works that were cited and acknowledged within the original versions of the writings that comprise this book. Below, the column on the left contains the sources as listed in Appendix A. The right column indicates all those references that were cited in the respective source documents. All of these writings -- sources and references -- are listed in the "Bibliography".

Source	References
Buchner (1979)	Moodie and Ray (1976); Roe (1951); Fuller (1966); Reeves (1970b); Wedel (1963); Darby (1977)

Source	References
Buchner (1980)	Jennings (1978); Albertson and Weaver (1942)
Carmichael (1979)	Stothers (1977); Wright (1972a); McPherron (1967); Shay (1978); Griffin (1960)
Dickson (1980)	Hanna (1975); Wright (1968, 1972b); Hlady (1971); MacNeish (1958); Noble (1971)
Dyck (1980)	Steinbring (1970, 1980); Quimby (1960); Buchner (1979)
Fardoe (1977)	Joyes (1969); Syms (1976); Neuman (1975); Reeves (1970a); Kehoe (1973); Wettlaufer and Mayer-Oakes (1960): Bird (1961)
Haug (1976)	Syms (1969, 1970); Reeves (1970a); Lee and DeVore (1968); White (1959); Sahlins and Service (1960)
Joyes (1970)	MacNeish (1958); McCorquodale (1960; Forbis (1962); Reeves (1966); Davis and Stallcop (1965); Shumate (1967)
Mallot (n.d.a.)	Jennings (1978); Steinbring (1970)
Mallot (n.d.b.)	MacNeish (1958); Mayer-Oakes (1967)
Meyer (1978)	Hlady (1971)
Miller (1981)	Buchner (n.d.b.)
Nash (1975)	Capes (1963)
Pettipas (n.d.a.)	Wright (1981)
Pettipas (n.d.b.)	Nash (1975)
Pettipas (1975)	Irving and Harington (1973); MacNeish (1971); Krieger (1964); Ritchie (1967, 1969, 1976); Ritchie and DeVries (1964); Irwin-Williams, et al. (1973); Bryan (1965)
Syms (1970)	Bentzen (1963); Mulloy (1954, 1958); Gant and Hurt (1965); Husted (1969); Syms (1969); Whillan (1955)
Whelan (1974)	Elias and Steinbring (1967); Sutton (1965); Lipsett (1970); Jones (1969); Steinbring and Elias (n.d.); Steinbring and Elias (1968); Dewdney and Kidd (1962)

APPENDIX C

SOURCES OF ILLUSTRATIVE MATERIAL

Page Number	Source
Cover	Manitoba Historic Resources Branch; drawing by J. Morier
7	Manitoba Historic Resources Branch; drawing by L. Pettipas, adapted from Bostock (1964)
9	Public Archives of Manitoba
10	Dr. Jennifer Shay
14	Dr. Jennifer Shay
15	Dr. Jennifer Shay
16	Dr. Karen Johnson, Manitoba Museum of Man and Nature
17	Both after Rowe (1972)
18	All after Rowe (1972), Shay (1980:242)
20	After Carlson (1978)
21	Manitoba Historic Resources Branch; photo by S. Saylor
23 (upper)	After Haynes (1972:44)
23 (lower)	Manitoba Historic Resources Branch; drawing by C. Trottier
25	From Pettipas (1970:7)
27 (upper)	Manitoba Historic Resources Branch; photo by B. MacKenzie
27 (lower)	Manitoba Historic Resources Branch, drawing by C. Trottier
29 (left)	Photos by S. Saylor, E.L. Syms
29 (right)	Manitoba Historic Resources Branch; drawing by C. Trottier

Page Number	Source
31 (left)	Photos by S. Saylor
31 (right)	Manitoba Historic Resources Branch; drawing by C. Trottier
32	Adapted from Pettipas and Buchner (1982)
33	From Simpson (1982:83)
35	Adapted from Pettipas and Buchner (1982)
37 (upper)	From Kehoe (n.d.:28)
37 (lower)	After Holmes (1919:298); drawing by J. Morier
41	From Buchner (1981:38, 48)
48	After Ritchie (1976:1181)
50	After Wheat (1972:88)
53	From Gryba (1980:49)
55 (lower)	From Gryba (1977:17)
57	Manitoba Historic Resources Branch; drawing by L. Jamieson, adapted from Stanford (1979:114-115)
58	After McCracken, et al. (1978:155-156)
61	From Gryba (1977:17,24)
63	Manitoba Historic Resources Branch; drawing by L. Jamieson
65	Manitoba Historic Resources Branch; drawing by J. Morier
66	From Steinbring (1970:57)
67	Adapted from Holmes (1919:194)
68 (left)	From Steinbring (1970:56)
68 (right)	From Steinbring (1980:234)
69	Manitoba Historic Resources Branch; photo by S. Saylor

Page Number	Source
70 (left)	Manitoba Museum of Man and Nature
70 (right)	From Steinbring (1980:238)
72 (lower)	Manitoba Museum of Man and Nature
73	From Steinbring (1980:225)
75 (right)	From Gryba (1977:18)
79	Manitoba Historic Resources Branch; drawing by L. Jamieson
80	From Dickson (1980:281)
81	Manitoba Historic Resources Branch
86	Department of Anthropology, University of Manitoba
87 (both)	Department of Anthropology, University of Manitoba
88 (both)	Department of Anthropology, University of Manitoba
89	Department of Anthropology, University of Manitoba
90	Department of Anthropology, University of Manitoba
92	Manitoba Historic Resources Branch; drawing by L. Jamieson
97	Manitoba Museum of Man and Nature, via Dr. E.L. Syms
99	Manitoba Historic Resources Branch; drawing by L. Jamieson, after Sproull-Thomson (1981:2)
104 (left)	From Gryba (1977:19)
105 (right)	Dr. E. Leigh Syms
106-107	D. Smaill, Manitoba Museum of Man and Nature
109 (right)	From Carmichael (1981:47)

Page Number	Source
112	Royal Ontario Museum
113	Chris Vickers
114	After Holmes (1919:354-55); drawings by J. Morier
115 (upper)	Chris Vickers
115 (lower)	After Holmes (1919:331); drawing by J. Morier
117	From Wedel (1960:216)
118	Manitoba Historic Resources Branch; drawing by L. Jamieson
119	Manitoba Parks Branch (base map drawn by J. Love-Symonds)
121	Manitoba Historic Resources Branch; drawings by F. Carmichael
122	From Gryba (1977:20,21)
125	Manitoba Historic Resources Branch; drawing by L. Jamieson, after Bjorklund (1969:85)
127 (both)	Manitoba Historic Resources Branch; drawings by J. Morier
128 (all)	Manitoba Historic Resources Branch; drawings by J. Morier
129	From Steinbring (1980:97)
130	From Tisdale (1978:153)
131	From Manitoba Parks Branch (1982:4), courtesy Manitoba Parks Branch and J. Carson
135	From Snortland-Coles (1979:224)
136	Manitoba Historic Resources Branch; photo by Brian MacKenzie
137	Manitoba Historic Resources Branch; photos by S. Saylor

Page Number	Source
139	Manitoba Historic Resources Branch; drawings by J. Morier
140	Manitoba Historic Resources Branch; drawing by J. Morier
142	From Buchner (1980b:109)
143	Information Services, Executive Council of Manitoba
144	Information Services, Executive Council of Manitoba
145	From Buchner (n.d.b)
148	From Haug (1976:102)
149	From Haug (1976:113)
150	From Haug (1976:100)
151	From Haug (1976:105)
153	From Steinbring (1980:83)
154	Manitoba Historic Resources Branch; drawing by F. Carmichael
156	Manitoba Historic Resources Branch; drawing by J. Morier
157	From Wiersum and Tisdale (1977:45)
159	Manitoba Historic Resources Branch; drawing by L. Jamieson
160	Manitoba Museum of Man and Nature, via K. Pettipas; drawing by L. Jamieson
162-164	Manitoba Historic Resources Branch; drawing by A. Yung
167	Manitoba Historic Resources Branch; photo by Information Services, Executive Council of Manitoba

Page Number	Source
168	Manitoba Historic Resources Branch; drawing by A. Yung
169	Manitoba Historic Resources Branch; photo by Information Services, Executive Council of Manitoba
170	From Dickson (1980:285)
173	Manitoba Historic Resources Branch; drawing by L. Jamieson
174 (right)	Manitoba Historic Resources Branch; drawing by J. Morier
174 (left)	D. Smaill, Manitoba Museum of Man and Nature
180	Manitoba Historic Resources Branch; drawing by L. Jamieson, after Bjorklund (1969:77)
184	Department of Anthropology, University of Manitoba
186 (both)	J.D. Robertson
188	D. Smaill, Manitoba Museum of Man and Nature; drawing by L. Jamieson
189	From Dewdney (1965:7)
192	Manitoba Historic Resources Branch; drawing by J. Morier
194	Manitoba Museum of Man and Nature, via Dr. E.L. Syms
196	From Nash (1975:88)
197	Manitoba Historic Resources Branch; drawing by J. Morier

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